UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

4WD-RCRA

DEC 14 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Paul Barrett
General Manager
PCS Phosphate White Springs
P.O. Box 300
White Springs, Florida 32096

SUBJECT: Notice of Violation
PCS Phosphate
EPA ID No.: FLD 098 372 360

Dear Mr. Barrett:

On April 12-14, 2005, the U.S. Environmental Protection Agency (EPA) conducted a hazardous waste Case Development Investigation/Evaluation (CDIE) at PCS Phosphate (PCS) in White Springs, Florida. This CDIE included sampling conducted by EPA's Science and Ecosystem Support Division (SESD) and Weston Solutions, Inc., an EPA contractor. Enclosed are the EPA's RCRA Site Inspection Report, SESD's Sampling Report, and sampling results for samples collected by Weston Solutions, Inc.

Based on information collected during these inspections, EPA has determined that PCS violated certain requirements of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 et seq., as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), Pub. L. 98-616.

Specifically, these violations include noncompliance with the requirements of RCRA outlined below and further detailed in the compliance evaluation inspection report enclosed herein.

1. 40 CFR § 262.11. Failure to make an adequate hazardous waste determination on D002 wastewater.

2. 40 CFR § 265.31. Failure to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

3. Section 3005 of RCRA, 42 U.S.C. § 6925. Treatment, and/or storage, and/or disposal of D002 hazardous waste without a RCRA permit or interim status.

4. 40 C.F.R. §§ 268.7, 268.9, and 268.40(a). Failure to comply with land disposal restrictions by improperly disposing of D002 hazardous waste.

5. As a result of treatment, and/or storage and/or disposal of a D002 hazardous waste, PCS is also in violation of the regulations promulgated pursuant to Section 3005 of RCRA and found at 40 CFR Parts 260-270. These include failure to comply with general facility standards, preparedness and prevention standards, contingency plan and emergency procedure standards, manifesting and recordkeeping standards, groundwater monitoring standards, closure and post-closure standards, and financial requirement standards.

Pursuant to Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), PCS may be liable for penalties of up to $25,000 per day of noncompliance for each violation that occurred before January 30, 1997, penalties of up to $27,500 per day of noncompliance for each violation that occurred from January 30, 1997, to March 15, 2004, and penalties of up to $32,500 per day of noncompliance for each violation that occurred after March 15, 2004.

If you have any technical questions regarding the alleged violations, please contact Bethany Russell at (404) 562-8542. Legal inquiries should be directed to Frank Ney, Associate Regional Counsel, at (404) 562-9532.

Sincerely,

Narindar Kumar, Chief
RCRA Enforcement & Compliance Branch
Waste Management Division

Enclosure

cc: Ashwin Patel- FDEP/Jacksonville
Tim Bahr- FDEP/Tallahassee

RCRA Case Development Evaluation/ Inspection Report

1) Inspector and Author of Report

Bethany Russell, Environmental Scientist

2) Facility Information

Potash Corporation of Saskatchewan, Inc. (PCS Phosphate or PCS)
Suwannee River Complex
State Road 137
White Springs, Florida 32096

Mailing Address:
P.O. Box 300
White Springs, Florida 32096

Phone: 1-800-432-1472

EPA ID No.: FLD 098 372 360

3) Responsible Official(s)

Paul Barrett PCS, General Manager

4) Date(s) and Time(s) of Inspection

April 12, 2005 - April 14, 2005

5) Inspection Participants

Stan Posey	PCS, Environmental Manager
Charles Pults	PCS, Senior Environmental Engineer
Paul Barrett	PCS, General Manager
Mitch Saad	PCS, Engineer
Steven Bailey	PCS, Engineer
Mark Ingram	PCS, Engineer
Bruce Park	PCS, Engineer
Bill Ellis	PCS, Sr. Production Engineer
Kevin Simmons	EPA, Region 4
Jeff Pallas	EPA, Region 4
Van Housman	EPA, Washington, DC
Bethany Russell	EPA, Region 4

6) Applicable Regulations

40 Code of Federal Regulations (CFR) Parts 260-279,
Resource Conservation and Recovery Act (RCRA) Sections 3002, 3004, 3005 and 3007,
(42 U.S.C. §§ 6922, 6924, 6925, and 6937),
Florida Statute Part IV Resource Recovery and Management, Chapter 403, Part IV,
Sections 403.701 and 403.091, Florida Statutes, and the regulations promulgated and adopted by reference and set forth at the Florida Administrative Code (F.A.C.) Annotated Chapter 62-710 and 62-730.

7) Purpose of Inspection

This was an EPA lead Case Development Investigation/Evaluation (CDIE) to determine PCS's compliance with the applicable requirements of the State and Federal RCRA statutes and regulations.

General Sampling Overview

EPA's sampling investigation, conducted concurrently with the CDIE during the week of April 12, 2005, was performed to collect and analyze process samples and to collect and analyze samples which could evaluate potential risk posed to the environment due to waste management on-site. Samples of process wastewaters were collected in the Monoammonium Phosphate (MAP)/Diammonium Phosphate (DAP) Plant Areas, Laboratory, Phosphoric Acid Plants (PAP), Railcar Cleaning Area, Product Storage Warehouses and from the discharge from the demineralizer unit to an outfall in the C&D Landfill. Samples used to evaluate potential environmental risk included surface water samples, groundwater samples, potable well samples, sediment samples, surface soil samples, and subsurface soil samples. The environmental risk samples were collected in and around the following areas: 1) background; 2) outfall in the C&D landfill; 3) gypsum storage stacks; 4) DAP production area; 5) hazardous waste storage area; 6) sulfuric acid storage A & B; 7) salvage yard; 8) C&D sulfuric; and 9) elementary neutralization unit discharge. Potable well samples were collected on-site, from the Fish residence, and from the Carver residence. Samples did not exceed regulatory limits unless specifically denoted in the following text of this report. Results of the entire sampling event are included in Attachment 1.

8) Facility Inspection History

PCS's most recent previous RCRA CDIE was performed on October 29, 1997, by FDEP personnel. As a result of violations noted during that inspection, the facility was determined by FDEP to be a Significant Non-Complier (SNC). The facility signed a FDEP Short Form Consent Order on 9/8/1998 to resolve the violations. The violations noted which led to the determination that the facility was a SNC included:

1) 40 CFR § 262.11 – Facility failed to perform a hazardous waste determination on waste bead blast grit generated in the machine shop, the plant maintenance shop and the mobile shop.
2) 40 CFR § 262.20(a) – Facility failed to use the manifest system when disposing of D006 waste grit blast from the maintenance shop, F005 solvent-contaminated rags and paper towels generated in the paint shop and F001 solvent contaminated rags and paper towels generated in the mobile shop.
3) 40 CFR § 262.34(c)(1)(ii) -Facility failed to mark one 5-gallon container of F005 waste paint/waste thinner and one 30-gallon garbage can of rags and paper towels contaminated with D001/F005 waste paint/waste thinner with the words "Hazardous Waste" or other labeling which identifies the contents of the containers.
4) 40 CFR § 265.31 - Facility failed to operate the facility in a manner which minimizes the possibility of the release of hazardous waste in the environment by failing to contain a release of paint in the paint shop.
5) 40 CFR § 265.173(a) - Facility failed to keep closed a 5-gallon container of F005 waste paint/waste thinner and one 30-gallon garbage can of rags and paper towels contaminated with D001/F005 waste paint/waste thinner.
6) 62-710.850(6)(a) F.A.C. Facility failed to label a 30-gallon drum of used oil filters with the words "Used Oil Filters."

9) Facility Description

PCS's Suwannee River Complex shares approximately 100,000 acres of land in Hamilton County, Florida with PCS's Mining Operations and PCS's Swift Creek Complex. The facility began operations in 1965 as Occidental Chemical Corporation. In 1995, the facility was purchased by PCS. Currently, PCS employs approximately 950 personnel and operates continuous 24/7 shifts. They have notified as a small quantity generator of hazardous waste in the State of Florida.

10) Findings

The inspection began with an opening conference at 9:00 am on April 12, 2005. Credentials were presented and the purposes of the inspection were stated. A closing conference was held following the inspection to discuss preliminary findings. The areas inspected, areas sampled, sampling results, and findings are as follows:

General Process Overview

PCS produces the solid fertilizers monoammonium phosphate (MAP) and diammonium phosphate (DAP), the liquid fertilizers merchant grade acid (MGA) and green superphosphoric acid (SPA/"LoMag"), and the animal feed phosphates defluorinated phosphoric acid (DFP), mono- and di-calcium phosphate. Sulfuric acid and phosphoric acid are essential reactants in the aforementioned products and are thus produced and consumed on-site. Phosphoric acid is produced by the digestion of phosphate rock with sulfuric acid. The reaction yields phosphoric acid and calcium sulfate dihydrate (phosphogypsum or gypsum). In two other Plants onsite, MAP and DAP are produced by reacting phosphoric acid with ammonia to produce the intermediate monoammonium

phosphate liquid and excess ammonia. Water vapor is subsequently removed and monoammonium phosphate is cooled and granulated to form diammonium phosphate.

In a separate Plant onsite, mono- and di-calcium phosphates are produced by reacting defluorinated phosphoric acid with lime.

PCS operates two sulfuric acid plants, two phosphoric acid plants (to be merged into a single plant by year end 2005), two DAP plants (one of which is capable of producing MAP, if desired), one LoMag plant, one defluorinated phosphate (DFP) plant, one laboratory, and a railcar cleaning area. A description of each plant/area and subsequent findings are summarized in the following pages of this report.

Sulfuric Acid Plants

A preliminary step in the production of phosphoric acid and subsequent products is the manufacture of sulfuric acid. Sulfuric acid, used to digest phosphate rock and produce the resultant phosphoric acid, is produced in two identical plants on-site (denoted as C and D). PCS receives a majority of sulfur from oil refineries and natural gas facilities.

The first stage of sulfuric acid production involves the conversion of sulfur to sulfur dioxide (SO_2). PCS burns sulfur in air to produce a sulfur dioxide mixture. Since the temperature of the resultant SO_2 gas mixture is higher than required, the gas is cooled in a waste heat boiler (WHB), which recovers the excess heat as steam. From the WHB, the cooled gas stream enters the first stage of the conversion system where the SO_2 is converted to approximately 85% sulfur trioxide (SO_3) gas in the presence of a vanadium pentoxide catalyst. The gas stream then proceeds through additional cooling and conversion stages where it contacts the vanadium pentoxide and the remaining SO_2 is converted to SO_3. After the third stage of conversion, the gas stream is cooled in a gas-to-gas heat exchanger and sent to an absorption tower, where most remaining SO_2 is converted to SO_3 by contacting a sulfuric acid solution. A few additional continuing pass and gas-to-gas heat exchanger stages are performed and the resultant 99.7% SO_3 stream is sent to a final absorption tower. In the final absorption tower, SO_3 in the gas stream reacts with water in a 98-99% circulating sulfuric acid stream, forming additional 98-99% sulfuric acid. Any residual gases from the final absorption tower are vented to the Title V permitted stack. The acid is stored until use in the phosphoric acid process.

Waste Management at the Sulfuric Acid Plants

Continuous effluent streams from the sulfuric acid plants include process wastewaters and stormwater run-off. Stormwater run-off flows into a retention pond via the "main perimeter ditch" which circles the plant area. The run-off is monitored for pH and adjusted with lime, if necessary. On April 12, 2005, EPA took a pH reading of water in the main perimeter ditch. The pH was 7.1 pH units. No apparent RCRA violations were noted.

Process wastewater streams from the production of sulfuric acid include, among others, boiler blowdown from the waste heat boilers, cooling tower blowdown and demineralizer water. All process wastewater streams are discharged into a concrete ditch and sump system which flows to an elementary neutralization unit (ENU) (Photo 1) where caustic is added to increase the pH of the water. The ENU is equipped with two pH monitoring stations and emergency closure gates.

Wastewaters from the Sulfuric Acid Plant are not exempt from regulation under Section 3005 of RCRA if they exhibit one or more characteristics identified in 40 CFR § 261.20-.24 (adopted by reference at F.A.C. Chapter 62-730). PCS appeared to be in compliance by utilizing an elementary neutralization system to neutralize low pH (< 2 pH units) wastewaters from the sulfuric acid process. To verify compliance, EPA requested documentation of pH monitoring for three months prior to the inspection. All pH readings were within the RCRA allowable pH range of 2 to 12.5 pH units. No apparent RCRA violations were noted.

Photo 1. PCS's Elementary Neutralization Unit.

Demineralizers

Wastewater is deionized using ion exchange units (demineralizers) in which the cation exchange resin is regenerated with sulfuric acid and the anion exchange resin is regenerated with a caustic solution. Wastewater from the demineralizers is piped to a recirculation ditch and subsequently to the C&D outfall settling area located in the C&D landfill. Water from the settling area then either exits the mine outfall into Hunter Creek or goes into Altman Bay Lake. On April 12 and April 13, 2005, EPA took pH readings of the water exiting the pipe into the C&D settling area. On April 13, 2005, EPA collected a sediment sample from the C&D outfall settling area. On April 12, the pH of the water was 10.8, and on April 13, the pH of the water was 9.4. Analysis of the sediment sample did not indicate elevated contaminant levels (Attachment 1).

Phosphoric Acid Plants

PCS receives phosphate ore (calcium fluoroapatite) from their mining operations located on contiguous property. The ore is fed through a series of reactors along with recycled phosphoric acid from the process. Sulfuric acid is added in the reactor series as a

leaching agent to the phosphoric acid slurry. After completing the reaction series, the process stream is washed with pond water while being forced through a filter. The filtercake is composed primarily of gypsum ($CaSO_4$ $2H_2O$). The product acid is concentrated to 75-100% by a series of evaporators and then cooled before entering storage. After a majority of P_2O_5 has been removed, the dried gypsum is mixed with pond water at a rate of three pounds of water per pound of solid. The mixture is slurried in an agitating tank and is typically pumped to the CTC gypsum storage stack (can also be pumped to the Dorr Oliver gypsum storage stack) [The CTC and Dorr Oliver gypsum stacks are discussed in the Gypstack and Cooling Pond System section below].

Waste Management at the Phosphoric Acid Plant

The phosphoric acid plant is equipped with a Venturi scrubber system which uses pond water to remove fluorine at various stages of the process. Process water from the reactors and the pan filters pass through the scrubber system. Scrubbing water from the system is transported to the Cooling Pond System.

Continuous effluent waste streams from the phosphoric acid plant include gypsum, non-contact wastewaters from the vacuum pump seal, and rock mill bearing cooling water. Process wastewater streams include cooler/condenser water, evaporator cooling water, and slurry water. In addition, PCS generates tank/equipment/area clean-out or wash-down wastewater (discussed in Dorr Oliver Tank Farm section below). Episodic waste streams generated in this area include spent catalyst and used oil.

Process wastewater generated solely from the production of phosphoric acid is a solid waste pursuant to 40 CFR § 261.4, but is exempt from hazardous waste regulation pursuant to 40 CFR § 261.4(b)(7)(ii)(P).

As stated above, gypsum generated from phosphoric acid production is slurried with process water and is typically pumped to the CTC gypsum storage stack where, over time, the water decants from the gypsum and drains into an unlined earthen ditch and pond system surrounding the stack. Gypsum generated from the production of phosphoric acid is a solid waste pursuant to 40 CFR § 261.4, but is exempt from hazardous waste regulation pursuant to 40 CFR § 261.4(b)(7)(ii)(D).

Diammonium Phosphate Plants

PCS manufactures DAP in two plants "Trains" designated at the Y-Train and the Z-Train. The Y-Train can be used to produce either MAP or DAP, whereas the Z-Train is dedicated to DAP production. Each Train will be described separately below.

Y-Train

The Y-Train is capable of producing either MAP or DAP by reacting a 30% phosphoric acid solution produced on site with ammonia purchased off-site. The resultant ammoniated phosphoric acid slurry is piped from the reactor to pugmills (granulators)

where the product is ground and sprayed with acid to adjust the size of the granules. The product then goes to a drier to remove residual water. The dried granules are cooled and screened across two levels of screens to a final size range of 2 to 4 mm. The final product is then conveyed to either the MAP or DAP warehouse until shipment.

To capture fugitive process dusts and gases (fluorine, product dust, and excess ammonia) from the Y-Train production process, PCS utilizes a three-stage "wet" Venturi scrubber system to pull vapors from the reactor, the pugmills, the dryer, and the screens & mills. The scrubbers are denoted, in order, as the Reaction Scrubber ("reaction cooler"), the Dryer Scrubber ("fluorine abatement"), and the Dust Scrubber. The reaction scrubber and the dryer scrubber are each a two-stage scrubbing system. The first stage (primary scrubber) utilizes a ± 30% acid solution as the scrubbing liquor, whereas the second stage scrubber uses "once-thru" pond water (scrubber water) [note: if MAP is produced, the acid scrubbers use pond water instead of acid]. The Reaction and Dryer Scrubbers use approximately 600 and 200-300 gal/min pond water, respectively. The Dust Scrubber is a single-stage, acid scrubber. Excess gases are vented to the Title V permitted stack and the scrubbing acid from the first stages are recycled to a scrubber tank. The scrubber water exiting each second stage scrubber flows through a concrete ditch and then commingles in a sump before being pumped to the "Dorr Oliver hot well sump" near the phosphoric acid storage tanks. In the Dorr Oliver hot well sump, the Y-train wastewater commingles with wastewaters from the X-Train (described below) and Z-Train before ultimately being pumped out to the Dorr-Oliver (DO) Cooling Pond System (described in greater detail in the Gypstack/Ditch System section below).

Z-Train

The Z-Train production of DAP is identical to that of the Y-Train, with the exception of the addition of an ammonia vaporizer which receives ammonia vapors from the pugmills and a cooler stage after the screening and milling stage.

The emission control scrubbing system at the Z-Train consists of a Reaction Scrubber attached to the ammonia vaporizer, a Dryer Scrubber, a Dust Scrubber, a Fugitive Dust Scrubber, a Cooler Scrubber, and a caustic Tail Gas Scrubber. As with the Y-Train, all of the scrubbers (except the tail gas and the cooler scrubbers) utilize an acid stream as the first stage scrubbing liquor. The Reaction Scrubber and the Dryer Scrubber both use a secondary stage of "once-thru" pond water (scrubber water) [Unless stated otherwise, all references to pond water used in the scrubbers is "once thru"]. The Cooler Scrubber only uses pond water, and the Tail Gas Scrubber uses both once-thru pond water and a caustic solution. After use, the scrubber water stream exiting each second stage scrubber flows through a concrete ditch and commingle in a sump before ultimately combining with wastewaters from the X-Train (DFP) and Z-Train at the Dorr Oliver hot well sump prior to discharge to the Dorr-Oliver Cooling Pond System (described in greater detail in the Gypstack/Ditch System section below).

Waste Management at the DAP Plant

Process wastewaters from the DAP plant are primarily generated from PCS's emission control scrubbers. The scrubber waters associated with both DAP plants are ultimately discharged into the Cooling Pond System where they commingle with, among other things, process water from the phosphoric acid process, process water from the animal feed production processes, and wastewater from railcar cleanout operations. Inspectors also noted that in the area of the Y-train, around the phosphoric acid storage tanks, spills and/or leaks of phosphoric acid from valves/ equipment had pooled on the tank farm pad. On April 12, EPA took a pH reading of the pooled liquid. The pH was 0.8. To clean the spills and/or leaks, PCS was performing pad washdown operations [Photos 2 and 3 and Segment 1 to 1:30 of Video (Attachment 2)]. According to facility personnel, pond water is used to perform the washdown operations. The washdown water drains into a common concrete ditch which leads to a common sump which eventually leads to the unlined DO Cooling Pond System (or CTC). The washdown operations are a regular occurrence as illustrated by the deep scores in the concrete berm surrounding the tank farm. On April 12, EPA took a pH reading of the washdown water as it drained into the common concrete ditch. The pH of the washdown water was 2.1.

Since the pH of the spilled liquid was less than 2 and was no longer a usable product, the material is a solid waste which meets the characteristic of corrosivity (D002), and as such is a hazardous waste.

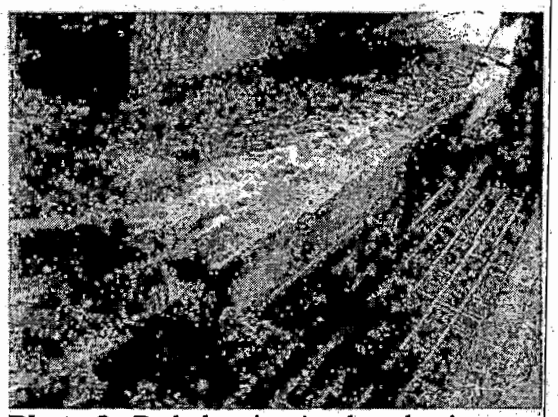


Photo 2. Pad cleaning in phosphoric acid tank storage area near DAP Y-Train

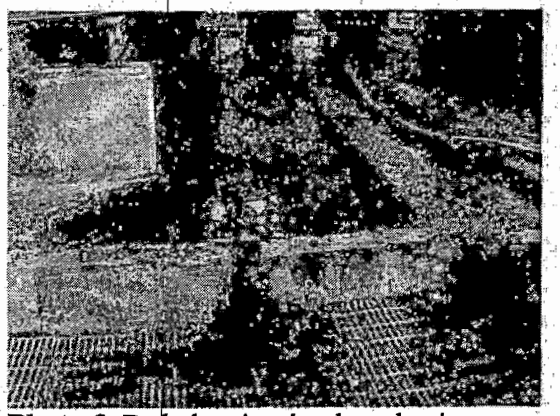


Photo 3. Pad cleaning in phosphoric acid tank storage area near DAP Y-Train

PCS is in apparent violation of F.A.C. 62-730.160/40 CFR § 262.11 for failing to make a hazardous waste determination for the D002 liquid on the phosphoric acid storage tank pad in the Y-train area.

By treating, and/or storing and/or disposing of D002 characteristic hazardous waste without interim status or a permit, PCS is in apparent violation of Section 3005 of RCRA, 42 U.S.C. § 6925. PCS is also in apparent violation of the applicable requirements promulgated pursuant thereto and found at F.A.C Chapters 62-730/40 CFR Parts 260-270.

PCS is in apparent violation of the land disposal restrictions found at F.A.C. 62-730.160/40 CFR §§ 268.7, 268.9, and 268.40(a), for disposing of D002 hazardous waste into a surface impoundment without determining the applicable treatment standards; by disposing before the treatment standards were met; for failure to comply with the other notice, certification, and waste analysis requirements in these sections.

PCS is in apparent violation of F.A.C Chapter 62-730/40 CFR § 265.31 for failing to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

On "repair day", once per month, the Y and Z Trains are shut down to remove scaling in the scrubbers. The scrubbers are hydroblasted with fresh water and the scale is washed into the sumps, unless the scale won't wash into the sumps and has to be manually transported to the gypstack. The final wash of the scrubbers is done with 350-400 gal/min of a sulfuric acid/pond water mixture from the Scrubber Tank. According to Facility personnel, the water is neutralized with caustic after use before being pumped to the CTC Cooling Pond System.

On April 12, 2005, pH readings within the Y-Train area were taken of slip streams from the Reaction Cooler Scrubber, the Drier Scrubber, and the combined flow of scrubber waters which ultimately discharge to the Cooling Pond System. In the Z-Train area, EPA took pH readings of slip streams from the Reaction Scrubber, the Drier Scrubber, the Tail Gas Scrubber, the Fugitive Dust Scrubber, and the combined discharge prior to transport to the hot well sump. Samples were collected for laboratory analysis on April 13, 2005, from the slip streams listed in Table 1. The samples were analyzed for metals, pH, fluoride, gross alpha particles, gross beta particles, Radium 226 and 228. Samples with a pH of less than 2 meet the characteristic of corrosivity (D002) and as such, constituent concentrations were compared to the land disposal restrictions/universal treatment standards (UTS) found at F.A.C. 62-730.160/40 CFR §§ 268.40 and 268.48. No samples exceeded the UTS for underlying hazardous constituents other than pH. The results of pH readings and laboratory analysis are listed in Table 1 below and in Attachment 1.

Table 1. pH readings from Y-Train and Z-Train scrubber systems slip streams.

Sample Location Y-Train	**Field Result**	**Lab Result***
Reaction Scrubber	2.61 @ 61.6 °C	6.59
Drier Scrubber	2.17 @ 47 °C	2.22
Wash down water	2.1 at 30.5 °C	2.2
Combined flow to cooling loop	2.5 @ 54 °C	4.03
Sample Location Z-Train	**Result**	
Reaction Scrubber	**1.84 @ 32.2 °C**	**2.28**
Drier Scrubber	**1.81@ 30.9°C**	**1.74**
Dust Scrubber	n/a	**1.73**

Tail Gas Scrubber	8.38 @ 34.6 °C	n/a
Fugitive Dust Scrubber	7.2 @ 22.7° C	n/a
Combined flow to cooling loop	**1.96@ 32.2 °C**	2.11

*Lab result likely differs from field result because samples for lab analysis were collected the day after field readings were taken; Due to strict pH calibration standards and procedures, field readings are considered accurate.

If wastewaters from ammoniated processes, such as DAP production, exhibit one or more characteristics identified in 40 CFR § 261.20-.24 (as adopted by reference in F.A.C. Chapter 62-730), those wastewaters are not exempt from hazardous waste regulation by the Bevill Exclusion found at 40 CFR § 261.4(b)(7)(ii) (as adopted by reference in F.A.C. Chapter 62-730) [see 54 FR 36592 dated September 1, 1989, and 55 FR 2322 dated January 23, 1990]. As stated in the Agency's Response to Comments to 54 FR 36592, "the Agency does not consider the production of ammoniated phosphate fertilizer from phosphoric acid and ammonia to be a mineral processing operation." As such, hazardous wastewaters from these processes are regulated under Section 3005 of RCRA. PCS discharges the liquid effluent streams from the Y and Z-Trains secondary scrubbers to their Cooling Pond System. Although Y-train effluent streams did not demonstrate a pH of less than 2 during the EPA CDIE, PCS personnel informed EPA personnel that the pH of the wastewater ranges from below 2 to above 2. PCS is cautioned that the pH of the exiting scrubber water must not be allowed to fall below a pH of 2. The Agency does not consider wastewater from the DAP/MAP scrubber system to be a "mineral processing operation," and as such, wastewater generated from this process is not exempt from the hazardous waste regulations found in Section 3005 of RCRA if it exhibits one or more characteristics identified in F.A.C. 62-730.160/40 CFR § 261.20-.24.

PCS is in apparent violation of F.A.C. 62-730.160/40 CFR § 262.11 for failing to make an adequate hazardous waste determination for D002 wastewater effluent from the DAP Z-Train emission control scrubbers.

By treating, and/or storing and/or disposing of D002 characteristic hazardous waste without interim status or a permit, PCS is in apparent violation of Section 3005 of RCRA, 42 U.S.C. § 6925. PCS is also in apparent violation of the applicable requirements promulgated pursuant thereto and found at F.A.C Chapters 62-730/40 CFR Parts 260-270.

PCS is in apparent violation of the land disposal restrictions found at F.A.C. 62-730.160/40 CFR §§ 268.7, 268.9, and 268.40(a), for disposing of D002 hazardous waste into a surface impoundment without determining the applicable treatment standards; by disposing before the treatment standards were met; for failure to comply with the other notice, certification, and waste analysis requirements in these sections.

Feed Operations

PCS designates their mono- and di-calcium phosphate production area as the X-Train. Mono- and di-calcium phosphates are produced by mixing defluorinated phosphoric acid with lime. The X-Train is also equipped with a scrubber system which consists of a Reaction Scrubber, a Dryer Scrubber, a Dust Scrubber, and a baghouse. Wastewater from the scrubber system is collected in a sump and pumped to the "Dorr Oliver hot well sump" where it commingles with process wastewaters from the MAP/DAP Y-Train and the DAP Z-Train prior to discharge to the Dorr Oliver Cooling Pond System.

Wastewater generated from animal feed production operations at phosphoric acid production facilities that qualify as mineral processing operations based on the definition of mineral processing that the Agency finalized on September 1, 1989, is a solid waste pursuant to F.A.C. 62-730.160/40 CFR § 261.4, but is exempt from hazardous waste regulation pursuant to F.A.C. 62-730.160/40 CFR § 261.4(b)(7)(ii)(P). No apparent RCRA violations were noted.

TSP (Mono- and di-cal)/DAP/MAP Shipping

Each of PCS's storage/shipping warehouses is equipped with a baghouse or scrubber. The TSP and DAP/MAP shipping warehouses are equipped with one scrubber each to collect fugitive dust emissions generated during the loading and storage of the product. Each scrubber utilizes once-thru pond water as the scrubbing liquor. After use, the scrubbing liquor enters a sump and is pumped to a larger sump prior to transport to the DO Cooling Pond System.

On April 13, 2005, EPA collected samples of scrubber wastewater from the sumps at the TSP and DAP/MAP shipping warehouse (Photos 4 and 5). The pH of the sample collected from the TSP sump was 2.17. The pH of the sample collected from the DAP/MAP sump was 2.07. The pH readings were within the RCRA allowable pH range of 2 to 12.5 pH units. No apparent RCRA violations were noted; however, PCS should be cautioned that the pH of the exiting scrubber water must not be allowed to fall below a pH of 2. The Agency does not consider the scrubbing of dust emission from storage warehouses to be a "mineral processing operation," and as such, wastewater generated from this process is not exempt from the hazardous waste regulations found in Section 3005 of RCRA if it exhibits one or more characteristics identified in F.A.C. 62-730.160/40 CFR § 261.20-.24.


Photo 4. TSP Scrubber

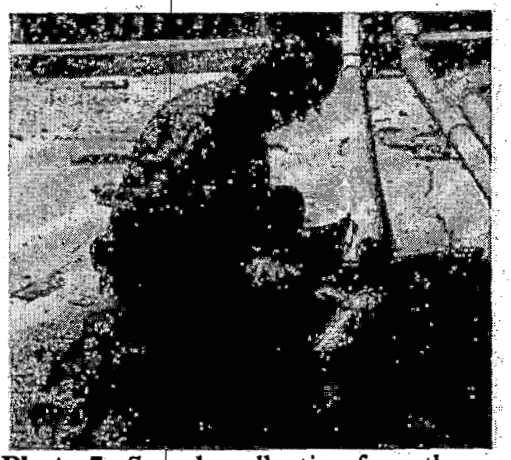


Photo 5. Sample collection from the MAP/DAP Warehouse Scrubber

Green Acid (LoMag) Production

PCS produces a superphosphoric acid with a low-fluorine, low-magnesium concentration. Due to its green color, the product is denoted as "green acid" or "LoMag." The acid is produced with a 1st stage oxidation followed by a second stage oxidation/reduction. As with other processes previously discussed, the LoMag operation is equipped with a scrubber system which removes fluorides, chlorides, and nitrates. The scrubber liquor is transported for use in the DAP and MAP areas.

Wastewater generated from the production of superphosphoric acid is a solid waste pursuant to 40 CFR § 261.4, but is exempt from hazardous waste regulation pursuant to F.A.C. 62-730.160/40 CFR § 261.4(b)(7)(ii)(P). No apparent RCRA violations were noted.

Railcar Wash Station

PCS pumps pond water from the DO Cooling Pond System to the Railcar Wash Station for use in two phosphoric acid tank car wash stations and one DAP hopper car wash station. PCS cleans approximately sixteen railcars and 40-50 hoppers per day. The water is continually circulated through the railcars (Photo 6, Segment 5:42 to 6:56 of Video (Attachment 2)), into one of four sumps, and back into the railcars, until the water can no longer be used and must be pumped back to the DO Pond System.

Residues from the cleanout of railcars are hazardous wastes pursuant to Section 3005 of RCRA if the waste exhibits one or more characteristics identified in F.A.C. 62-730.160/40 CFR § 261.20-.24.

On April 13, 2005, EPA took a sample of wastewater from the Railroad Wash Station Sump (Photo 7). The pH of the sample was 1.91. Since the sample pH was less than 2, it meets the characteristic of corrosivity (D002) and as such, constituent concentrations were compared to the land disposal restrictions/universal treatment standards (UTS)

found at F.A.C. 62-730.160/40 CFR §§ 268.40 and 268.48. No samples exceeded the UTS for underlying hazardous constituents other than pH. Complete analytical data is included in Attachment 1.

Photo 6. Pond water flushing of Railcar at Railcar Wash Station.

Photo 7. Sample collection from Railcar Wash Station Sump

PCS is in apparent violation of F.A.C. 62-730.160/40 CFR § 262.11 for failing to make an adequate hazardous waste determination for D002 wastewater effluent from the Railcar Wash Station.

By treating, and/or storing and/or disposing of D002 characteristic hazardous waste without interim status or a permit, PCS is in apparent violation of Section 3005 of RCRA, 42 U.S.C. § 6925. PCS is also in apparent violation of the applicable requirements promulgated pursuant thereto and found at F.A.C Chapters 62-730/40 CFR Parts 260-270.

PCS is in apparent violation of the land disposal restrictions found at F.A.C. 62-730.160/40 CFR §§ 268.7, 268.9, and 268.40(a), for disposing of D002 hazardous waste into a surface impoundment without determining the applicable treatment

standards; by disposing before the treatment standards were met; for failure to comply with the other notice, certification, and waste analysis requirements in these sections.

Laboratory

Samples of chemical products are tested for purity in this area. According to facility personnel, the liquid assay for phosphate detection consists of 5 parts hydrochloric acid/1 part nitric acid. The sample digest is poured down a lab sink where it flows into a 1,000-gallon holding tank and is neutralized. Methanol/xylene/acetone used for solids quantification is collected in a small jug and subsequently transferred into a 55-gallon drum in the 180-day accumulation area located next to the lab. The jug was properly closed and labeled.

To verify waste neutralization and proper disposal, EPA collected samples of water and sediment from the laboratory sump (Photo 8). The samples did not indicate elevated contaminant levels. No apparent RCRA violations were noted.

Photo 8. Laboratory sump.

180-Day Hazardous Waste Storage Area

At the time of inspection, PCS was storing one 55-gallon drum of "Organic" waste and some paint waste. The drum was properly closed, labeled and dated. The area was equipped with secondary containment, a fire extinguisher, and all personnel visiting the area carry cell phones. No apparent RCRA violations were noted.

Dorr Oliver Tank Farm

On April 12, 2005, at least one phosphoric acid storage tank in the DO tank farm was being cleaned out [Photo 9 and Segment 3:19 to 4:47 of Video (Attachment 2)]. The rinsate was traversing a common concrete ditch (DO tank farm ditch) which also received equipment leaks and phosphoric acid spills (Photo 10). The ditch then flows into a common sump (DO "hot well sump") prior to being pumped to the DO Cooling Pond System. As stated in a written response from PCS to an EPA question on-site, the frequency of tank cleanings for phosphoric acid tanks averages three tanks per year. The

volume of water used per phosphoric acid tank cleaning is 70,000 to 300,000 gallons, depending on the purpose of the cleaning (sludge removal, inspection, relining, etc.). The overall average use is 150,000 gallons (Attachment 3).

On April 13, 2005, EPA took pH readings from the DO tank farm ditch. The pH of the water in the tank farm ditch was 1.6. Later during the day when a sample was collected the pH had increased to 2.2. The Agency does not consider tank cleanout operations to be a "mineral processing operation," and as such, wastewater generated from this process is not exempt from the hazardous waste regulations found in Section 3005 of RCRA if it exhibits one or more characteristics identified in F.A.C. 62-730.160/40 CFR § 261.20-.24. Since the pH of the wastewater was less than 2, it meets the characteristic of corrosivity (D002) and as such, constituent concentrations were compared to the land disposal restrictions/universal treatment standards (UTS) found at F.A.C. 62-730.160/40 CFR §§ 268.40 and 268.48. No samples exceeded the UTS for underlying hazardous constituents other than pH. Complete analytical data is included in Attachment 1.

PCS is in apparent violation of F.A.C. 62-730.160/40 CFR § 262.11 for failing to make a hazardous waste determination for the D002 wastewater from the DO tank farm tank cleanout wastewater.

By treating, and/or storing and/or disposing of D002 characteristic hazardous waste without interim status or a permit, PCS is in apparent violation of Section 3005 of RCRA, 42 U.S.C. § 6925. PCS is also in apparent violation of the applicable requirements promulgated pursuant thereto and found at F.A.C Chapters 62-730/40 CFR Parts 260-270.

PCS is in apparent violation of the land disposal restrictions found at F.A.C. 62-730.160/40 CFR §§ 268.7, 268.9, and 268.40(a), for disposing of D002 hazardous waste into a surface impoundment without determining the applicable treatment standards; by disposing before the treatment standards were met; for failure to comply with the other notice, certification, and waste analysis requirements in these sections.

PCS is in apparent violation of F.A.C Chapter 62-730/40 CFR § 265.31 for failing to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Photo 9. Tank clean out, water flow demonstrated by red bracket (better visualized on Video, Attachment 2)

As stated above, the DO tank farm ditch also receives equipment leaks and/or acid spills (Photo 10). Some of the leaks and/or spills flow, undiluted, through a concrete ditch and PVC pipe which eventually intersects with the DO tank farm ditch, which ultimately is discharged to the DO Cooling Pond System. On April 13, 2005, EPA took pH readings of the liquid flowing from the aforementioned pipe, prior to the intersection with the DO tank farm ditch (Photo 11). The pH of the liquid draining into the tank farm ditch from equipment leaks was 0.8.

Since the pH of the spilled liquid was less than 2 and was no longer a usable product, the material is a solid waste which meets the characteristic of corrosivity (D002), and is a hazardous waste. Therefore, the facility is in violation of RCRA for failing to make a hazardous waste determination and illegally treating a hazardous waste without a permit or interim status.

PCS is in apparent violation of F.A.C. 62-730.160/40 CFR § 262.11 for failing to make a hazardous waste determination for the D002 liquid from leaks and/or spills in the Dorr Oliver Tank Farm.

By treating, and/or storing and/or disposing of D002 characteristic hazardous waste without interim status or a permit, PCS is in apparent violation of Section 3005 of RCRA, 42 U.S.C. § 6925. PCS is also in apparent violation of the applicable requirements promulgated pursuant thereto and found at F.A.C Chapters 62-730/40 CFR Parts 260-270.

PCS is in apparent violation of F.A.C Chapter 62-730/40 CFR § 265.31 for failing to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Photo 10. Leaks from equipment in DO Tank Farm

Photo 11. Pipe discharging leaks from equipment in DO Tank Farm draining into DO tank farm ditch.

Downgradient of the DO Tank Farm is the hot well sump which receives the combined flow of wastewaters from the phosphoric acid production, DAP Y and Z-Trains, the X-train (Photo 12, Segment 4:47 to 5:41 of Video (Attachment 2)), and washdown water from the DO tank farm ditch. The combined flow from these pipes commingles inside the hot well sump (Photo 13) prior to being pumped into the DO Cooling Pond System.

On April 13, 2005, EPA took a pH reading of theY-train influx to the hot well sump (Z-train influx flow was too rapid to take reading or sample), and returned later in the day to collect a sample. The initial pH reading was 2.07 and the pH of the collected sample was 2.35.

Photo 12. Z and Y-train pipes, influx to hot well sump

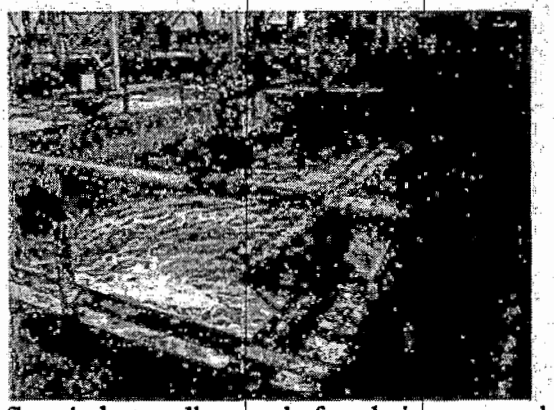


Photo 13. Combined flow in hot well sump before being pumped to DO Cooling Pond System

Gypstacks and Cooling Pond Systems

PCS currently manages two phosphogypsum (gypsum) storage stacks (gypstacks), designated as the Dorr Oliver Gypstack and the CTC Gypstack. Both gypstacks are unlined and have a dedicated Cooling Pond System, although water is readily transferable between the two systems using an elaborate pumping system. The ponds receive process waters from all production processes onsite, as well as operation and maintenance washdown waters, and non-process wastewaters.

The CTC Gypstack is situated northwest of the Chemical Plant and its associated Cooling Pond System is a large ditch which circles the stack and has no actual ponds directly associated with it (Attachment 4). The Dorr Oliver Gypstack is situated southeast of the Chemical Plant and has an associated Cooling Pond System which consists of a network of ditches, two liming ponds, and a surge pond (Attachment 4).

11) Inspection Conclusion

Upon conclusion of the inspection, inspectors held a close-out meeting to discuss concerns with facility personnel. The following is a summary of apparent site violations and recommendations noted during the inspection.

Apparent Violations:

1) **F.A.C. 62-730.160/40 CFR § 262.11.** Failure to make hazardous waste determinations on D002 wastewater from the DAP scrubber system, the Railcar Wash Station, Tank Cleanout Operations, and acid spills in the DO Tank Farm and the phosphoric acid storage pad near Y-Train.

2) **F.A.C. 62-730.160/40 CFR § 265.31.** Failure to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment from the acid leaks/spills in Y-train phosphoric acid storage pad area and the DO Tank Farm.

3) **Section 3005 of RCRA, 42 U.S.C. § 6925.** Treatment, and/or storage, and/or disposal of hazardous waste without a RCRA permit or interim status.

4) **As a result of treatment, and/or storage, and/or disposal of a D002 hazardous waste without a permit or interim status, PCS is also in apparent violation of the regulations promulgated pursuant to RCRA § 3005 and found at F.A.C. 62-730.160/40 CFR Parts 260-270.** These include failure to comply with general facility standards, preparedness and prevention standards, contingency plan and emergency procedure standards, manifesting and recordkeeping standards, groundwater monitoring standards, closure and post-closure standards, and financial requirement standards.

5) **F.A.C. 62-730.160/40 CFR §§ 268.7, 268.9, and 268.40(a).** Disposal of D002 hazardous waste into a surface impoundment without determining the applicable treatment standards; by disposing before the treatment standards were met; for failure to comply with the other notice, certification, and waste analysis requirements in these sections, and for not complying with 40 C.F.R Parts 264-5, Subpart F.

General Facility Operation:

Please note that when a non-Bevill exempt waste is mixed with a Bevill exempt waste and the resultant mixture is stored in non-regulated units such as ditches and ponds, the regulatory status of any and/or all receiving units may be affected.

12) Signed:

Bethany Russell
Environmental Scientist

12/1/05
Date

13) Concurrence:

Jeffrey T. Pallas, Chief
South Enforcement and Compliance Section
RCRA Enforcement and Compliance Branch

12/6/2005
Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

Enforcement and Investigations Branch
980 College Station Road
Athens, Georgia 30605-2720

DATE: 08/01/2005

4SESD-EIB

MEMORANDUM

SUBJECT: Final Report
PCS Phosphate Corp., Suwannee River Complex
White Springs, Florida 32096
SESD Project No. 05-0437

FROM: Kevin Simmons KNS
Enforcement Section

TO: Bethany Russell
South Enforcement and Compliance Section

Attached is the report for the sampling investigation conducted at PCS Phosphate Corporation, Suwannee River Complex located in White Springs, FL the week of April 11, 2005. If you have any questions or comments regarding this report please contact me at 706.355.8730 or simmons.kevin@epa.gov.

Attachments:

cc: M Bowden

INTRODUCTION

Personnel from the U.S. Environmental Protection Agency (USEPA), Region 4, Science and Ecosystem Support Division (SESD) conducted a sampling investigation at the PCS Phosphate Corp., Suwannee River Complex during the week of April 11, 2005. This investigation was requested by the USEPA RCRA Enforcement and Compliance Branch (ECB).

The following USEPA personnel participated in the investigation:

Kevin Simmons, SESD Project Leader
Art Masters, SESD
Martin Allen, SESD
Mark Bean, SESD
Jeff Pallas, RCRA Enforcement and Compliance Branch
Bethany Russell, RCRA Enforcement and Compliance Branch
Van Houseman, RCRA Enforcement Division, OECA

BACKGROUND

The USEPA Office of Enforcement and Compliance Assurance (OECA) has implemented a national initiative for the mineral processing and mining industry. As part of the initiative, the USEPA Region 4 inspected and conducted sampling at seven phosphate processing facilities in Fiscal Year (FY) 2005. Region 4 has selected the PCS Phosphate Suwannee River and Swift Creek complexes in White Springs, FL.

PCS Phosphate operates three major facilities within a 6-kilometer (4-mile) radius in White Springs, Florida. It is the only phosphate operation in northern Florida, and owns or controls over 40,500 hectares (100,000 acres) in Hamilton County. It has an annual capacity of 3.6 million tons of phosphate rock and 1.093 million P_2O_5 tons of phosphoric acid. There are approximately 620 active employees.

Draglines remove 6 to 8 meters (20 to 26 feet) of overburden and excavate 3 to 6 meters (10 to 20 feet) of ore (matrix), depositing the ore in shallow earthen pits where it is suspended in water and pumped to the beneficiation plant (mill). Coarse materials, clays and sands are removed during the beneficiation process. The beneficiated phosphate rock is then transported to the chemical plants for conversion to end products. This process begins by reaction of the rock and sulfuric acid (produced on site from sulfur brought in by rail) to form phosphoric acid.

The White Springs Swift Creek chemical complex is believed to be the low-cost producer in the industry. It produces superphosphoric acid (SPA). The **Suwannee River chemical complex** produces amber merchant grade acid (MGA), the solid fertilizer DAP, green SPA (LoMag) and feed phosphates.

Region 4 representatives conducted an inspection at the facility to determine if numerous wastestreams were in compliance under the Resource Conservation and Recovery Act (RCRA).

Wastes generated at the sulfuric acid and the DAP production areas have the potential to be RCRA hazardous wastes. Specifically, some of the waste may exhibit the Toxicity Characteristic (TC) for metals and/or be corrosive.

STUDY OBJECTIVES

The primary objective of the SESD sampling investigation was to characterize selected process waste streams and to determine if the concentrations for various pollutants were within the applicable RCRA regulatory criteria (MCLs for groundwater). An authoritative sampling design was used to collect samples. Analyses included total metals, TCLP metals, pH, fluoride, gross alpha particles, gross beta particles, and Radium 226 and 228. Samples were transported to both the SESD laboratory in Athens, GA, and the US EPA's National Air and Radiation Environmental Laboratory (NAREL) in Montgomery, AL.

A secondary objective of the sampling investigation was to conduct a site assessment of the facility under CERCLA (Superfund). Personnel from Weston Solutions conducted the sampling for the CERCLA site assessment portion of the investigation and will issue a separate report.

See **Figure 1** for a general location map.

SUMMARY

A total of 19 samples were collected at PCS Phosphate during the investigation. Of the 19 samples collected, four (4) samples had parameters outside of their respective regulatory criteria. The pH results for three (3) samples (**DRYER Z, DUST Z,** and **RAILCAR**) were **1.74, 1.73, and 1.91** standard pH units, respectively, which were outside (below) the RCRA criteria for characteristic wastes of 2 pH units. One groundwater sample (**DICAL TW**) exceeded the Drinking Water Maximum Contaminant Level (MCL) for gross alpha particles (15 pCi/l) with a result of **136 pCi/L**. All other EPA analytical data were within the applicable regulatory criteria.

The process water samples were compared to the Land Disposal Restrictions (LDR) Universal Treatment Standards (UTS) for wastewater where the total suspended solids (TSS) and total organic carbon (TOC) were <1%. SESD laboratory analyses indicate that none of the process water samples exceeded any LDR UTS concentration. Zinc and fluoride are excluded from the UTS

EPA STUDY RESULTS AND OBSERVATIONS

1. Description of Sampling Locations

Thirteen (13) samples were process water from various scrubbers and other operations. Two (2) groundwater samples were collected. One was from a permanent monitoring well (SR-A1) and

the other from a temporary well (DICAL-TW) installed by SESD personnel using a Geoprobe®. Two (2) sediment and one (1) subsurface soil sample were also collected. One (1) sample was collected from the laboratory sump which also received stormwater runoff. This sample was designated as a waste sample. All samples collected by SESD were split with PCS Phosphate via their contractors.

The sampling locations were as follows:

Process Water Samples

COMB Y	Combined process water at Y train
COMB Z	Combined process water at Z train
COOLER Y	Y train secondary cooler
COOLER Z	Z train reaction cooler
DEMIN	Demineralizer outfall
DMSCRUB	DAP/MAP shipping scrubber
DO WASH	Dorr Oliver (DO) washout ditch
DRYER Y	Y train fluorine abatement scrubber
DRYER Z	Z train dryer scrubber
DUST Z	Z train secondary dust scrubber
HOTSUMP Y	Y train hot sump
LAB	Laboratory sump
RAILCAR	Wash water from phosphoric acid railcar
TSP SCRUB	TSP warehouse scrubber

Groundwater Samples

SRA1	Permanent monitoring well
DICAL TW	Temporary well installed on west side of dical shipping, ~50' W of silo D

Soil and Sediment Samples

DEMIN SD	Demineralizer outfall ditch
DICAL SB	0"-12" soil sample from west side of dical shipping, ~50' west of silo D
LAB SED	Sediment from laboratory sump

See **Figure 2** for a sample location map. Not all samples are shown on map due to difficulty in receiving global positioning system (GPS) signals inside the plant.

2. Discussion of Analytical Results

The US-EPA analytical results are summarized in Tables 1 through 4 as follows:

Table 1	SESD analytical results for process water samples
Table 2	SESD analytical results for groundwater samples
Table 3	SESD analytical results for soil and sediment samples
Table 4	NAREL analytical results for groundwater samples

Total suspended solids and total organic carbon were analyzed for samples **COMB Y, DO WASH,** and **HOTSUMP Y** to determine if the samples met the definition for a wastewater or a non-wastewater according to the Land Disposal Restrictions (LDR) found in 40 CFR 268.48 Table UTS. The results indicated that all three samples were wastewaters according to the above definition.

Table 1 summarizes the data from the 13 process water samples plus the laboratory sump sample, **LAB**. None of these samples failed the Toxicity Characteristic Leaching Procedure (TCLP) analysis.

Table 2 contains the data from the groundwater samples. All groundwater analytes were below MCLs for the two samples except for gross alpha particles which are in Table 4.

Table 3 contains the data from the soil and sediment samples. No regulatory levels were exceeded for these samples which includes an extractable organics analysis on sample **LAB SED.**

Table 4 summarizes the radiation data from the US- EPA NAREL. Sample **DICAL TW** exceeded the MCL for gross alpha particles (15pCi/L).

Complete analytical data sheets from SESD are attached as **Appendix A.**
Analytical data sheets from NAREL are attached as **Appendix B.**

3. Discussion of Field Investigation

On April 12, 2005, US- EPA personnel arrived at PCS Phosphate Corporation at approximately 0850, signed-in at the office, and met with Charles Pults, Sr Environmental Engineer; Stan Posey, Environmental Manager; and Paul Barrett, General Manager. A temporary well location was sited near the dical shipping area. The SESD Geoprobe® operator collected a 0"-12" soil sample before starting the well installation. All samples were collected by SESD personnel or PCS personnel and splits were provided to PCS employees or contractor representatives.

All process water samples were collected either by dipping the containers directly into the water or by filling them via a stainless steel scoop.

The soil sample, **DICAL SB** was collected from a depth of 0"-12" at the same location as the temporary well. The sample was collected in a plastic liner in the core tube assembly on the Geoprobe®. Samples **DEMIN SD** and **LAB SD** were collected using a stainless steel scoop attached to a 10' length of conduit and thoroughly mixed in a glass pan.

Temporary well **DICAL-TW** was installed to a depth of 24' with the screened interval from 20'-24'. The sample was collected using a peristaltic pump and Teflon® tubing. Monitoring well **SR-A1** was sampled using the same procedure as above.

Three (3) QA samples were prepared on-site and submitted to the appropriate laboratories for analysis. Preservative blank **QA-PB3** was prepared with the sulfuric acid used to preserve the total organic carbon samples. Preservative blanks **QA-PB1,** and **QA-PB2** were prepared with the nitric acid used to preserve metals and radiation samples. The results are included in the SESD analytical data sheets (Appendix A).

METHODOLOGY

SESD field procedures were performed in accordance with the guidance presented in SESD's Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EISOPQAM), November 2001.

Laboratory analyses were for inorganic compounds scan (SW-846 Method 6010). The Toxicity Characteristic Leaching Procedure (TCLP) (SW-846 Method 1311) was performed when scan results indicate that the sample could potentially exceed the Toxicity Characteristic Regulatory Level for a compound. Samples were analyzed for Fluoride, total suspended solids (TSS), and total organic carbon (TOC) using Standard Methods 4500-F and 2540, and US-EPA Water Method 415. All samples analyzed at the SESD laboratory will be in accordance with the Analytical Support Branch Laboratory Operations and Quality Assurance Manual (November 17, 2004). Radiochemical analyses were for alpha, beta and gamma scans as well as radium 226 & radium 228 isotopes, and were in accordance with the US-EPA NAREL's methods as well as quality assurance and quality control procedures.

Table 1
PCS Phosphate
April 13-14, 2005
Process Water Samples

Metals Parameters	Units	DRYER Y 4/13/2005 1630	DRYER Z 4/13/2005 1545	DUST Z 4/14/2005 940	HOTSUMP Y 4/13/2005 1710	LAB 4/13/2005 1115	RAILCAR 4/13/2005 1300	TSP SCRUB 4/14/2005 1000
Aluminum	UG/L	63000	140000	150000	82000	24000 AJ	65000	140000
Antimony	UG/L	87	80	85	81	UJ	64	110
Arsenic	UG/L	580	790	840	560	UJ	470	640
Barium	UG/L	95	210	220	90	UJ	66	180
Beryllium	UG/L	69	79	82	72	UJ	68	89
Cadmium	UG/L	400	480	510	390	UJ	390	450
Calcium	MG/L	870	1000	1000	960	350 AJ	640	1200
Chromium	UG/L	1600	1700	1700	1700	UJ	1500	2100
Cobalt	UG/L	210	200	210	200	UJ	360	250
Copper	UG/L	220	290	310	200	UJ	200	260
Iron	MG/L	110	120	130	140	UJ	110	200
Lead	UG/L	100	180	200	110	UJ	U	160
Magnesium	MG/L	140	230	240	130	130 AJ	130	170
Manganese	UG/L	12000	15000	15000	12000	UJ	14000	15000
Molybdenum	UG/L	550	340	340	560	1400 AJ	490	580
Nickel	UG/L	560	570	590	550	UJ	1000	660
Potassium	MG/L	140	220	210	120	UJ	97	160
Sodium	MG/L	590	1200	1200	520	2000 AJ	410	670
Strontium	UG/L	6300	16000	16000	5700	930 AJ	4300	9000
Thallium	UG/L	U	55	U	53	UJ		
Tin	UG/L	400 J	280 J	290 J	440 J	UJ	460 J	490 J
Titanium	UG/L	3300	3700	3900	4000	UJ	5100	5200
Vanadium	UG/L	2200	2700	2800	2300	UJ	2300	2900
Yttrium	UG/L	470	1400	1500	700	UJ	350	1400
Zinc	UG/L	3300	2700	2800	3100	UJ	3400	3600
Inorganic Parameters								
Fluoride	MG/L	1600	4400	4600	1600	NR	1200	2000
pH	PHUN	2.22	1.74	1.73	2.35	NR	1.91	2.17
Total Organic Carbon	MG/L	NR	NR	NR	90	NR		
Total Suspended Solids	MG/L	NR	NR	NR	680	NR		

U-Analyte not detected at or above reporting limit.
J-Identification of analyte is acceptable; reported value is an estimate.
UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
A-Analyte analyzed in replicate. Reported value is 'average' of replicates.
NR-Not Reported

Table 1
PCS Phosphate
April 13-14, 2005
Process Water Samples

Metals Parameters	Units	COMB Y 4/13/2005 1645	COMB Z 4/13/2005 1615	COOLER Y 4/13/2005 1620	COOLER Z 4/13/2005 1535	DEMIN 4/14/2005 1055	DMSCRUB 4/13/2005 1235	DO WASH 4/13/2005 1715
Aluminum	UG/L	180000	140000 A	52000	140000	U	76000	56000
Antimony	UG/L	140	76 A	74	78	U	80	73
Arsenic	UG/L	660	780 A	550	810	U	600	540
Barium	UG/L	140	200 A	86	210	26 A	110	83
Beryllium	UG/L	110	79 A	62	84	U	73	62
Cadmium	UG/L	470	440 A	370	470	U	420	370
Calcium	MG/L	850	1000 A	820	1100	38 A	960	830
Chromium	UG/L	2500	1600 A	1400	1700	U	1600	1400
Cobalt	UG/L	260	210 A	190	220	U	230	190
Copper	UG/L	310	290 A	200	300	U	220	190
Iron	MG/L	250	120 A	93	120	0.32 A	100	94
Lead	UG/L	130	180 A	99	170	U	80	93
Magnesium	MG/L	180	230 A	120	240	14 A	140	120
Manganese	UG/L	17000	14000 A	10000	15000	15 A	12000	11000
Molybdenum	UG/L	740	340 A	520	350	U	540	500
Nickel	UG/L	700	610 A	530	640	U	620	530
Potassium	MG/L	150	230 A	130	230	1.3 A	150	130
Sodium	MG/L	570	1100 A	550	1200	330 A	640	530
Strontium	UG/L	6800	15000 A	5700	16000	120 A	7300	5800
Tin	UG/L	560 J	660 AJ	420 J	660 J	29 AJ	480 J	410 J
Titanium	UG/L	6000	3600 A	2900	3700	U	3100	2900
Vanadium	UG/L	3600	2700 A	2000	2900	U	2300	2000
Yttrium	UG/L	2100	1400 A	360	1500	U	530	340
Zinc	UG/L	4000	2900 A	2900	2900	U	3400	3000
Inorganic Parameters								
Fluoride	MG/L	2000	4000	1600	4300	U	1800	1500
pH	PHUN	4.03	2.11	6.59	2.28	3.69	2.07	2.2
Total Organic Carbon	MG/L	93	NR	NR	NR	NR	NR	NR
Total Suspended Solids	MG/L	4200	NR	NR	NR	NR	NR	400

Table 2
PCS Phosphate
April 13-14, 2005
Groundwater Samples

Metals Parameters	Units	MCL	SRA1 4/14/2005 1000		DICAL TW 4/13/2005 1053	
Aluminum	UG/L		130	A	1000	
Antimony	UG/L	6		U		U
Arsenic	UG/L	10		U		U
Barium	UG/L	2000		U	15	
Beryllium	UG/L	4		U		U
Cadmium	UG/L	5		U	4.9	
Calcium	MG/L		6	A	150	
Chromium	UG/L	100		U		U
Cobalt	UG/L			U	13	
Copper	UG/L			U		U
Iron	MG/L			U	15	
Lead	UG/L	15		U		U
Magnesium	MG/L		0.63	A	48	
Manganese	UG/L		8.3	A	1200	
Molybdenum	UG/L			U	19	
Nickel	UG/L			U	44	
Potassium	MG/L			U	7.8	
Sodium	MG/L	160	3	A	63	
Strontium	UG/L		9.3	A	100	
Tin	UG/L			UJ	86	J
Titanium	UG/L			U		U
Vanadium	UG/L			U	22	
Yttrium	UG/L			U	38	
Zinc	UG/L			U	170	
Inorganic Parameters						
Fluoride	MG/L	4		U	0.82	
pH	PHUN		6.17		6.13	
Total Organic Carbon						NR
Total Suspended Solids						NR

Data Qualifiers
U-Analyte not detected at or above reporting limit.
J-Identification of analyte is acceptable; reported value is an estimate.
UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
A-Analyte analyzed in replicate. Reported value is 'average' of replicates.
NR-Not Reported

Table 3
PCS Phosphate
April 13-14, 2005
Soil and Sediment Samples

Metals Parameters	Units	DEMIN SD 4/14/2005 900		DICAL SB 4/12/2005 1620		LAB SED 4/13/2005 1120	
% Moisture	%	22		16	A	21	
Aluminum	MG/KG	1100		5300		3800	AJ
Antimony	MG/KG		U	1.1		0.73	A
Arsenic	MG/KG	0.58		1.9		2.1	A
Barium	MG/KG	20		20		51	A
Beryllium	MG/KG		U	1.6			U
Cadmium	MG/KG	0.49		2.6		1.7	A
Calcium	MG/KG	26000		97000		110000	A
Chromium	MG/KG	5.5		49		19	A
Cobalt	MG/KG		U	1.4		1.2	A
Copper	MG/KG		U	5.9		5.7	A
Iron	MG/KG	560		8200		4000	AJ
Lead	MG/KG	1.2		3.7		8.4	AJ
Magnesium	MG/KG	220		550		2600	AJ
Manganese	MG/KG	17		190		100	A
Molybdenum	MG/KG	1.2		10		13	A
Nickel	MG/KG		U	4.8		3.8	A
Potassium	MG/KG	440		380		660	A
Sodium	MG/KG	660	J	390	J	1900	AJ
Strontium	MG/KG	95		100		360	AJ
Tin	MG/KG		UJ	4.6	J	13	AJ
Titanium	MG/KG	14		320		99	A
Vanadium	MG/KG	5.2		60		27	A
Yttrium	MG/KG	12		22		39	A
Zinc	MG/KG	4.9		56		28	A

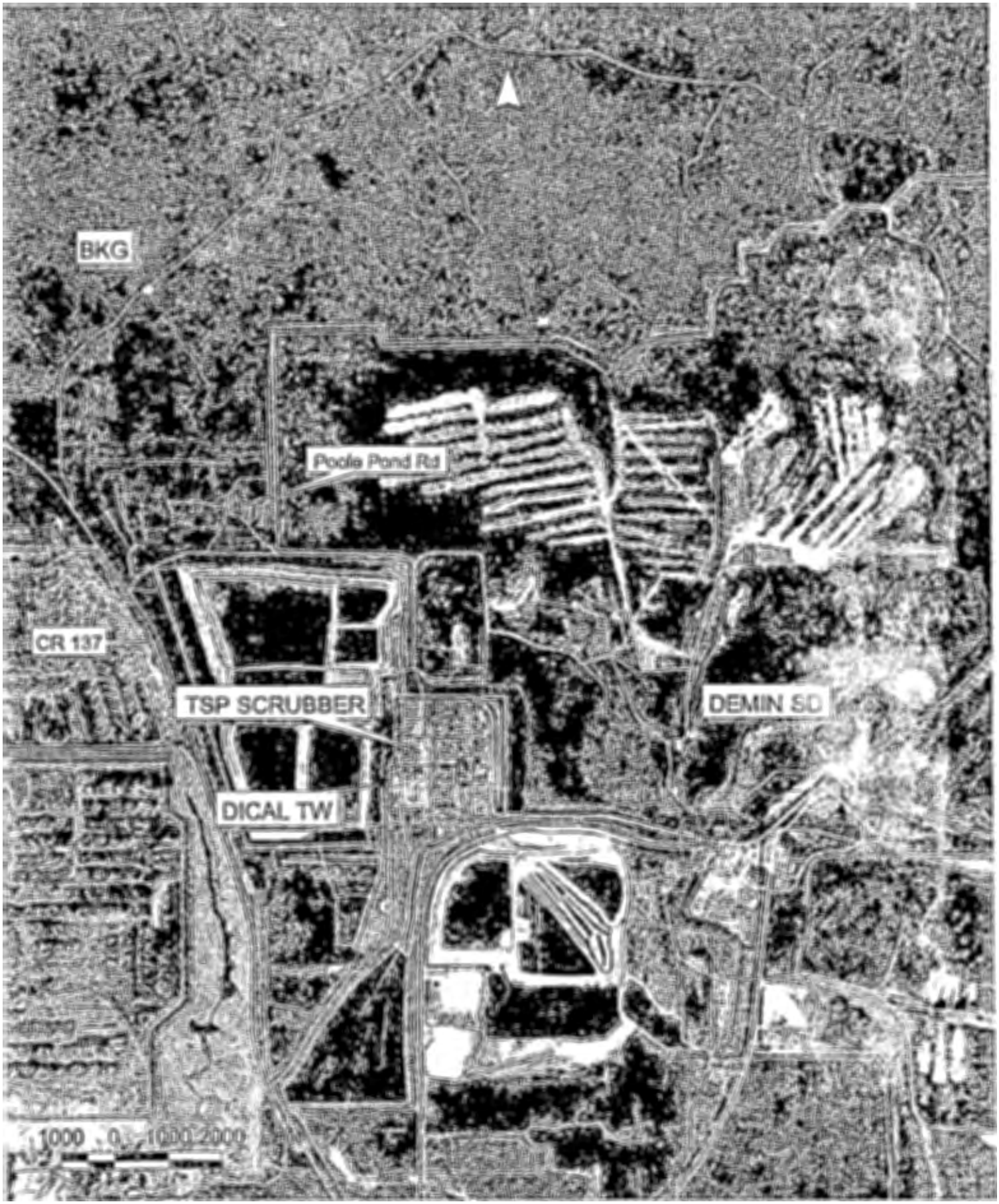
Data Qualifiers
U-Analyte not detected at or above reporting limit.
J-Identification of analyte is acceptable; reported value is an estimate.
UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
A-Analyte analyzed in replicate. Reported value is 'average' of replicates.
NR-Not Reported

Table 4
PCS Phosphates
April 13-14, 2005
EPA NAREL Laboratory Results
Groundwater

Rad Parameters	Units	MCL	DICAL TW 4/13/2005 1053	SRA1 4/14/2005 1000
Gross Alpha	pCi/L	15	136	10.2
Gross Beta	pCi/L	4 mrems/yr	55.9	13.1
Radium 226	pCi/L	5	*56.8	ND
Radium 228	pCi/L	5	ND	ND

ND - Not Detected
* Result is questionable due to high uncertainty

PCS Phosphate Location Figure 1



PCS Suwannee River Complex Figure 2

Appendix A

SESD Analytical Data Sheets

Sample 4454 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: COMB Y /

Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 16:45
Ending:

RESULTS	UNITS	ANALYTE
50 U	UG/L	Silver
660	UG/L	Arsenic
140	UG/L	Barium
110	UG/L	Beryllium
470	UG/L	Cadmium
260	UG/L	Cobalt
2500	UG/L	Chromium
310	UG/L	Copper
740	UG/L	Molybdenum
700	UG/L	Nickel
130	UG/L	Lead
140	UG/L	Antimony
100 U	UG/L	Selenium
560 J	UG/L	Tin
6800	UG/L	Strontium
6000	UG/L	Titanium
50 U	UG/L	Thallium
3600	UG/L	Vanadium
2100	UG/L	Yttrium
4000	UG/L	Zinc
0.20 U	UG/L	Total Mercury
180000	UG/L	Aluminum
17000	UG/L	Manganese
850	MG/L	Calcium
180	MG/L	Magnesium
250	MG/L	Iron
570	MG/L	Sodium
150	MG/L	Potassium

erferences outside Method Acceptance Criteria for Sn.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4454 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: COMB Y /

Media: WASTEWATER

Produced by: VanCuron, Francine

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/13/2005 16:45

Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

annot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
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Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4454 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: COMB Y /
Media: WASTEWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 16:45
Ending:

RESULTS	UNITS	ANALYTE
4.03	PHUN	pH
4200	MG/L	Total Suspended Solids
2000	MG/L	Fluoride
93	MG/L	Total Organic Carbon

I measured at 20.9 C

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
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Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4455 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: COMB Z1

Media: WASTEWATER

Produced by: VanCuron, Francine

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/13/2005 16:15

Ending:

RESULTS	UNITS	ANALYTE
50 U	UG/L	Silver
780 A	UG/L	Arsenic
200 A	UG/L	Barium
79 A	UG/L	Beryllium
440 A	UG/L	Cadmium
210 A	UG/L	Cobalt
1600 A	UG/L	Chromium
290 A	UG/L	Copper
340 A	UG/L	Molybdenum
610 A	UG/L	Nickel
180 A	UG/L	Lead
76 A	UG/L	Antimony
100 U	UG/L	Selenium
660 AJ	UG/L	Tin
15000 A	UG/L	Strontium
3600 A	UG/L	Titanium
50 U	UG/L	Thallium
2700 A	UG/L	Vanadium
1400 A	UG/L	Yttrium
2900 A	UG/L	Zinc
0.20 U	UG/L	Total Mercury
140000 A	UG/L	Aluminum
14000 A	UG/L	Manganese
1000 A	MG/L	Calcium
230 A	MG/L	Magnesium
120 A	MG/L	Iron
1100 A	MG/L	Sodium
230 A	MG/L	Potassium

erferences outside Method Acceptance Criteria for Sn.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
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-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

EPA - REGION IV SESD, ATHENS, GA

Production Date: 07/05/2005 10:15

Sample 4455 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: COMB Z /

Media: WASTEWATER

Produced by: VanCuron, Francine

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/13/2005 16:15

Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

Cannot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
P-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4455 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: COMB Z /
Media: WASTEWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 16:15
Ending:

RESULTS	UNITS	ANALYTE
2.11	PHUN	pH
4000	MG/L	Fluoride

H measured at 21.1 C

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
A-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

IETALS SAMPLE ANALYSIS — EPA - REGION IV SESD, ATHENS, GA — Production Date: 07/06/2005 10:15

Sample 4456 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: COOLER Y /

Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 16:20
Ending:

RESULTS	UNITS	ANALYTE
50 U	UG/L	Silver
550	UG/L	Arsenic
86	UG/L	Barium
62	UG/L	Beryllium
370	UG/L	Cadmium
190	UG/L	Cobalt
1400	UG/L	Chromium
200	UG/L	Copper
520	UG/L	Molybdenum
530	UG/L	Nickel
99	UG/L	Lead
74	UG/L	Antimony
100 U	UG/L	Selenium
420 J	UG/L	Tin
5700	UG/L	Strontium
2900	UG/L	Titanium
50 U	UG/L	Thallium
2000	UG/L	Vanadium
360	UG/L	Yttrium
2900	UG/L	Zinc
0.20 U	UG/L	Total Mercury
52000	UG/L	Aluminum
10000	UG/L	Manganese
820	MG/L	Calcium
120	MG/L	Magnesium
93	MG/L	Iron
550	MG/L	Sodium
130	MG/L	Potassium

ıterferences outside Method Acceptance Criteria for Sn.

-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
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A-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4456 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: COOLER Y /

Media: WASTEWATER

Produced by: VanCuron, Francine

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/13/2005 16:20

Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

annot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
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A-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4456 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: COOLER Y /
Media: WASTEWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 16:20
Ending:

RESULTS	UNITS	ANALYTE
6.59	PHUN	pH
1600	MG/L	Fluoride

measured at 21.1 C

\nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
ᵓresumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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ᵓresence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4457 FY 2005 Project: **05-0437**

Metals Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: COOLER Z /

Media: WASTEWATER

Produced by: VanCuron, Francine

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/13/2005 15:35

Ending:

RESULTS	UNITS	ANALYTE
50 U	UG/L	Silver
810	UG/L	Arsenic
210	UG/L	Barium
84	UG/L	Beryllium
470	UG/L	Cadmium
220	UG/L	Cobalt
1700	UG/L	Chromium
300	UG/L	Copper
350	UG/L	Molybdenum
640	UG/L	Nickel
170	UG/L	Lead
78	UG/L	Antimony
100 U	UG/L	Selenium
660 J	UG/L	Tin
16000	UG/L	Strontium
3700	UG/L	Titanium
50 U	UG/L	Thallium
2900	UG/L	Vanadium
1500	UG/L	Yttrium
2900	UG/L	Zinc
0.20 U	UG/L	Total Mercury
140000	UG/L	Aluminum
15000	UG/L	Manganese
1100	MG/L	Calcium
240	MG/L	Magnesium
120	MG/L	Iron
1200	MG/L	Sodium
230	MG/L	Potassium

erferences outside Method Acceptance Criteria for Sn.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
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\-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4457 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: COOLER Z /

Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 15:35
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

annot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
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Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
A-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4457 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: COOLER Z /
Media: WASTEWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 15:35
Ending:

RESULTS	UNITS	ANALYTE
2.28	PHUN	pH
4300	MG/L	Fluoride

measured at 21.1 C

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4458 FY 2005 Project: 05-0437
Metals Scan
Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: DEMIN /
Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 10:55
Ending:

RESULTS	UNITS	ANALYTE
5.0 U	UG/L	Silver
5.0 U	UG/L	Arsenic
26 A	UG/L	Barium
3.0 U	UG/L	Beryllium
2.5 U	UG/L	Cadmium
5.0 U	UG/L	Cobalt
5.0 U	UG/L	Chromium
5.0 U	UG/L	Copper
5.0 U	UG/L	Molybdenum
10 U	UG/L	Nickel
5.0 U	UG/L	Lead
5.0 U	UG/L	Antimony
10 U	UG/L	Selenium
29 AJ	UG/L	Tin
120 A	UG/L	Strontium
17 U	UG/L	Titanium
5.0 U	UG/L	Thallium
5.0 U	UG/L	Vanadium
3.0 U	UG/L	Yttrium
10 U	UG/L	Zinc
0.20 U	UG/L	Total Mercury
50 U	UG/L	Aluminum
15 A	UG/L	Manganese
38 A	MG/L	Calcium
14 A	MG/L	Magnesium
0.32 A	MG/L	Iron
330 A	MG/L	Sodium
1.3 A	MG/L	Potassium

:S Recovery outside Method Acceptance Criteria for Sn.
erferences outside Method Acceptance Criteria for Sn.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4458 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: DEMIN /

Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 10:55
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

nnot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4458 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: DEMIN /
Media: WASTEWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 10:55
Ending:

RESULTS	UNITS	ANALYTE
3.69	PHUN	pH
0.50 U	MG/L	Fluoride

measured at 22.1 C

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
lentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4462 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE ks

Id/Station: ~~DIMSCRUB~~ / OMSCRUB

Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 12:35
Ending:

RESULTS	UNITS	ANALYTE
50 U	UG/L	Silver
600	UG/L	Arsenic
110	UG/L	Barium
75	UG/L	Beryllium
420	UG/L	Cadmium
230	UG/L	Cobalt
1600	UG/L	Chromium
220	UG/L	Copper
540	UG/L	Molybdenum
620	UG/L	Nickel
80	UG/L	Lead
80	UG/L	Antimony
100 U	UG/L	Selenium
480 J	UG/L	Tin
7300	UG/L	Strontium
3100	UG/L	Titanium
50 U	UG/L	Thallium
2300	UG/L	Vanadium
530	UG/L	Yttrium
3400	UG/L	Zinc
0.20 U	UG/L	Total Mercury
76000	UG/L	Aluminum
12000	UG/L	Manganese
960	MG/L	Calcium
140	MG/L	Magnesium
100	MG/L	Iron
640	MG/L	Sodium
150	MG/L	Potassium

erferences outside Method Acceptance Criteria for Sn.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4462 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: ~~DIMSCRUB~~ / dmscrub

Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 12:35
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

annot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
A-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4462 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE KS
Id/Station: ~~DIMSCRUB~~ / OMSCRUB
Media: WASTEWATER

Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 12:35
Ending:

RESULTS	UNITS	ANALYTE
2.07	PHUN	pH
1800	MG/L	Fluoride

measured at 21.0 C

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
lentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
entification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4463 FY 2005 Project: **05-0437**

Metals Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: DO WASH /
Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 17:15
Ending:

RESULTS	UNITS	ANALYTE
50 U	UG/L	Silver
540	UG/L	Arsenic
83	UG/L	Barium
62	UG/L	Beryllium
370	UG/L	Cadmium
190	UG/L	Cobalt
1400	UG/L	Chromium
190	UG/L	Copper
500	UG/L	Molybdenum
530	UG/L	Nickel
93	UG/L	Lead
73	UG/L	Antimony
100 U	UG/L	Selenium
410 J	UG/L	Tin
5800	UG/L	Strontium
2900	UG/L	Titanium
50 U	UG/L	Thallium
2000	UG/L	Vanadium
340	UG/L	Yttrium
3000	UG/L	Zinc
0.20 U	UG/L	Total Mercury
56000	UG/L	Aluminum
11000	UG/L	Manganese
830	MG/L	Calcium
120	MG/L	Magnesium
94	MG/L	Iron
530	MG/L	Sodium
130	MG/L	Potassium

erferences outside Method Acceptance Criteria for Sn.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte cannot be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4463 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: DO WASH /

Media: WASTEWATER

Produced by: VanOuten, Francine

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/13/2005 17:15

Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

nnot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

\nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4463 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: DO WASH/
Media: WASTEWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 17:15
Ending:

RESULTS	UNITS	ANALYTE
2.20	PHUN	pH
400	MG/L	Total Suspended Solids
1500	MG/L	Fluoride

I measured at 20.9 C

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4464 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: DRYER Y /

Media: WASTEWATER

Produced by: VanCuron, Francine

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/13/2005 16:30

Ending:

RESULTS	UNITS	ANALYTE
50 U	UG/L	Silver
580	UG/L	Arsenic
95	UG/L	Barium
69	UG/L	Beryllium
400	UG/L	Cadmium
210	UG/L	Cobalt
1600	UG/L	Chromium
220	UG/L	Copper
550	UG/L	Molybdenum
560	UG/L	Nickel
100	UG/L	Lead
87	UG/L	Antimony
100 U	UG/L	Selenium
400 J	UG/L	Tin
6300	UG/L	Strontium
3300	UG/L	Titanium
50 U	UG/L	Thallium
2200	UG/L	Vanadium
470	UG/L	Yttrium
3300	UG/L	Zinc
0.20 U	UG/L	Total Mercury
63000	UG/L	Aluminum
12000	UG/L	Manganese
870	MG/L	Calcium
140	MG/L	Magnesium
110	MG/L	Iron
590	MG/L	Sodium
140	MG/L	Potassium

erferences outside Method Acceptance Criteria for Sn.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4464 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: DRYER Y /

Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 16:30
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

.nnot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4464 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: DRYER Y /
Media: WASTEWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 16:30
Ending:

RESULTS	UNITS	ANALYTE
2.22	PHUN	pH
1600	MG/L	Fluoride

measured at 20.9 C

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
lentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
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Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4443 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: DRYER Z /
Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 15:45
Ending:

RESULTS	UNITS	ANALYTE
15 U	UG/L	Silver
790	UG/L	Arsenic
210	UG/L	Barium
79	UG/L	Beryllium
480	UG/L	Cadmium
200	UG/L	Cobalt
1700	UG/L	Chromium
290	UG/L	Copper
340	UG/L	Molybdenum
570	UG/L	Nickel
180	UG/L	Lead
80	UG/L	Antimony
100 U	UG/L	Selenium
280 J	UG/L	Tin
16000	UG/L	Strontium
3700	UG/L	Titanium
55	UG/L	Thallium
2700	UG/L	Vanadium
1400	UG/L	Yttrium
2700	UG/L	Zinc
0.20 U	UG/L	Total Mercury
140000	UG/L	Aluminum
15000	UG/L	Manganese
1000	MG/L	Calcium
230	MG/L	Magnesium
120	MG/L	Iron
1200	MG/L	Sodium
220	MG/L	Potassium

:S Recovery outside Method Acceptance Criteria for Sn.
lerferences outside Method Acceptance Criteria for Sn.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
\-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4443 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: DRYER Z /
Media: WASTEWATER

Produced by: VanCouron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 15:45
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

ınot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
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·Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
'resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4443 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: DRYER Z /
Media: WASTEWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 15:45
Ending:

RESULTS	UNITS	ANALYTE
1.74	PHUN	pH
4400	MG/L	Fluoride

measured at 21.4 C

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4444 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: DUST Z /
Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 09:40
Ending:

RESULTS	UNITS	ANALYTE
15 U	UG/L	Silver
840	UG/L	Arsenic
220	UG/L	Barium
82	UG/L	Beryllium
510	UG/L	Cadmium
210	UG/L	Cobalt
1700	UG/L	Chromium
310	UG/L	Copper
340	UG/L	Molybdenum
590	UG/L	Nickel
200	UG/L	Lead
85	UG/L	Antimony
100 U	UG/L	Selenium
290 J	UG/L	Tin
16000	UG/L	Strontium
3900	UG/L	Titanium
50 U	UG/L	Thallium
2800	UG/L	Vanadium
1500	UG/L	Yttrium
2800	UG/L	Zinc
0.20 U	UG/L	Total Mercury
150000	UG/L	Aluminum
15000	UG/L	Manganese
1000	MG/L	Calcium
240	MG/L	Magnesium
130	MG/L	Iron
1200	MG/L	Sodium
210	MG/L	Potassium

:S Recovery outside Method Acceptance Criteria for Sn.
erferences outside Method Acceptance Criteria for Sn.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
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-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4444 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: DUST Z /
Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 09:40
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

annot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
A-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4444 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: DUST Z /
Media: WASTEWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 09:40
Ending:

RESULTS	UNITS	ANALYTE
1.73	PHUN	pH
4600	MG/L	Fluoride

measured at 21.0 C

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
entification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4445 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: HOTSUMP Y /
Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 17:10
Ending:

RESULTS	UNITS	ANALYTE
50 U	UG/L	Silver
560	UG/L	Arsenic
90	UG/L	Barium
72	UG/L	Beryllium
390	UG/L	Cadmium
200	UG/L	Cobalt
1700	UG/L	Chromium
200	UG/L	Copper
560	UG/L	Molybdenum
550	UG/L	Nickel
110	UG/L	Lead
81	UG/L	Antimony
100 U	UG/L	Selenium
440 J	UG/L	Tin
5700	UG/L	Strontium
4000	UG/L	Titanium
53	UG/L	Thallium
2300	UG/L	Vanadium
700	UG/L	Yttrium
3100	UG/L	Zinc
0.20 U	UG/L	Total Mercury
82000	UG/L	Aluminum
12000	UG/L	Manganese
960	MG/L	Calcium
130	MG/L	Magnesium
140	MG/L	Iron
520	MG/L	Sodium
120	MG/L	Potassium

erferences outside Method Acceptance Criteria for Sn.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4445 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: HOTSUMP Y /
Media: WASTEWATER

Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 17:10
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

annot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
A-Not Analyzed. | NAI-Not Analyzed due to Interferances. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4445 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: HOTSUMP Y /
Media: WASTEWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 17:10
Ending:

RESULTS	UNITS	ANALYTE
2.35	PHUN	pH
680	MG/L	Total Suspended Solids
1600	MG/L	Fluoride
90	MG/L	Total Organic Carbon

l measured at 20.9 C

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4446 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: LAB /

Media: WASTE

Produced By: VanOsdell, Pamela

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/13/2005 11:15

Ending:

RESULTS	UNITS	ANALYTE
490 UJ	UG/L	Silver
490 UJ	UG/L	Arsenic
490 UJ	UG/L	Barium
290 UJ	UG/L	Beryllium
250 UJ	UG/L	Cadmium
490 UJ	UG/L	Cobalt
490 UJ	UG/L	Chromium
490 UJ	UG/L	Copper
1400 AJ	UG/L	Molybdenum
980 UJ	UG/L	Nickel
490 UJ	UG/L	Lead
490 UJ	UG/L	Antimony
990 UJ	UG/L	Selenium
1500 UJ	UG/L	Tin
930 AJ	UG/L	Strontium
490 UJ	UG/L	Titanium
490 UJ	UG/L	Thallium
490 UJ	UG/L	Vanadium
290 UJ	UG/L	Yttrium
980 UJ	UG/L	Zinc
0.20 UJ	UG/L	Total Mercury
24000 AJ	UG/L	Aluminum
490 UJ	UG/L	Manganese
350 AJ	MG/L	Calcium
130 AJ	MG/L	Magnesium
9.8 UJ	MG/L	Iron
2000 AJ	MG/L	Sodium
98 UJ	MG/L	Potassium

atrix Precision outside Method Acceptance Criteria for Sr and Al.
:erferences outside Method Acceptance Criteria for Sn.

Sample Improperly Preserved for Metals Analysis. All Analytes Estimated.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
\-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4446 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: LAB /
Media: WASTE

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 11:15
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

annot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
A-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4446 FY 2005 Project: 05-0437

Extractables Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: LAB /

Media: WASTE

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/13/2005 11:15

Ending:

RESULTS	UNITS	ANALYTE
53 U	UG/L	bis(2-Chloroethyl) Ether
53 U	UG/L	Benzaldehyde
53 U	UG/L	Hexachloroethane
53 U	UG/L	bis(2-Chloroisopropyl) Ether
53 U	UG/L	n-Nitroso di-n-Propylamine
53 U	UG/L	Acetophenone
53 U	UG/L	Nitrobenzene
53 U	UG/L	Hexachlorobutadiene
53 U	UG/L	Caprolactam
53 U	UG/L	2-Methylnaphthalene
53 U	UG/L	1,2,4-Trichlorobenzene
53 U	UG/L	Naphthalene
53 U	UG/L	4-Chloroaniline
53 U	UG/L	bis(2-Chloroethoxy)Methane
53 U	UG/L	Isophorone
53 U	UG/L	Hexachlorocyclopentadiene (HCCP)
53 U	UG/L	1,1-Biphenyl
53 U	UG/L	2-Chloronaphthalene
53 U	UG/L	2-Nitroaniline
53 U	UG/L	Acenaphthylene
53 U	UG/L	Acenaphthene
53 U	UG/L	Dimethyl Phthalate
53 U	UG/L	Dibenzofuran
53 U	UG/L	2,4-Dinitrotoluene
53 U	UG/L	2,6-Dinitrotoluene
53 U	UG/L	3-Nitroaniline
53 U	UG/L	4-Chlorophenyl Phenyl Ether
53 U	UG/L	4-Nitroaniline
53 U	UG/L	Fluorene
53 U	UG/L	Diethyl Phthalate
53 U	UG/L	n-Nitrosodiphenylamine/Diphenylamine
53 U	UG/L	Hexachlorobenzene (HCB)
53 U	UG/L	Atrazine
53 U	UG/L	4-Bromophenyl Phenyl Ether
53 U	UG/L	Phenanthrene

RESULTS	UNITS	ANALYTE
53 U	UG/L	Anthracene
53 U	UG/L	Carbazole
53 U	UG/L	Di-n-Butylphthalate
53 U	UG/L	Fluoranthene
53 U	UG/L	Pyrene
53 U	UG/L	Benzyl Butyl Phthalate
53 U	UG/L	bis(2-Ethylhexyl) Phthalate
53 U	UG/L	Benzo(a)Anthracene
53 U	UG/L	Chrysene
53 U	UG/L	3,3'-Dichlorobenzidine
53 U	UG/L	Di-n-Octylphthalate
53 U	UG/L	Benzo(b)Fluoranthene
53 U	UG/L	Benzo(k)Fluoranthene
53 U	UG/L	Benzo-a-Pyrene
53 U	UG/L	Indeno (1,2,3-cd) Pyrene
53 U	UG/L	Dibenzo(a,h)Anthracene
53 U	UG/L	Benzo(ghi)Perylene
53 U	UG/L	2-Chlorophenol
53 U	UG/L	2-Methylphenol
53 U	UG/L	(3-and/or 4-)Methylphenol
53 U	UG/L	2-Nitrophenol
53 U	UG/L	Phenol
53 U	UG/L	2,4-Dimethylphenol
53 U	UG/L	2,4-Dichlorophenol
53 U	UG/L	2,4,6-Trichlorophenol
53 U	UG/L	2,4,5-Trichlorophenol
53 U	UG/L	4-Chloro-3-Methylphenol
100 U	UG/L	2,4-Dinitrophenol
100 U	UG/L	2-Methyl-4,6-Dinitrophenol
100 U	UG/L	Pentachlorophenol
100 U	UG/L	4-Nitrophenol
53 U	UG/L	2,3,4,6-Tetrachlorophenol

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Production Date: 07/05/2005 10:40

Sample 4451 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: RAILCAR /
Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 13:00
Ending:

RESULTS	UNITS	ANALYTE
50 U	UG/L	Silver
470	UG/L	Arsenic
66	UG/L	Barium
68	UG/L	Beryllium
390	UG/L	Cadmium
360	UG/L	Cobalt
1500	UG/L	Chromium
200	UG/L	Copper
490	UG/L	Molybdenum
1000	UG/L	Nickel
50 U	UG/L	Lead
64	UG/L	Antimony
100 U	UG/L	Selenium
460 J	UG/L	Tin
4300	UG/L	Strontium
5100	UG/L	Titanium
50 U	UG/L	Thallium
2300	UG/L	Vanadium
350	UG/L	Yttrium
3400	UG/L	Zinc
0.20 U	UG/L	Total Mercury
65000	UG/L	Aluminum
14000	UG/L	Manganese
640	MG/L	Calcium
130	MG/L	Magnesium
110	MG/L	Iron
410	MG/L	Sodium
97	MG/L	Potassium

erferences outside Method Acceptance Criteria for Sn.

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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entification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4451 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: RAILCAR /
Media: WASTEWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 13:00
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

innot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4451 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: RAILCAR /
Media: WASTEWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 13:00
Ending:

RESULTS	UNITS	ANALYTE
1.91	PHUN	pH
1200	MG/L	Fluoride

measured at 21.1 C

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
lentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4453 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: TSP SCRUB /

Media: WASTEWATER

Produced by: VanCuron, Francine

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/14/2005 10:00

Ending:

RESULTS	UNITS	ANALYTE
50 U	UG/L	Silver
640	UG/L	Arsenic
180	UG/L	Barium
89	UG/L	Beryllium
450	UG/L	Cadmium
250	UG/L	Cobalt
2100	UG/L	Chromium
260	UG/L	Copper
580	UG/L	Molybdenum
660	UG/L	Nickel
160	UG/L	Lead
110	UG/L	Antimony
100 U	UG/L	Selenium
490 J	UG/L	Tin
9000	UG/L	Strontium
5200	UG/L	Titanium
50 U	UG/L	Thallium
2900	UG/L	Vanadium
1400	UG/L	Yttrium
3600	UG/L	Zinc
0.20 U	UG/L	Total Mercury
140000	UG/L	Aluminum
15000	UG/L	Manganese
1200	MG/L	Calcium
170	MG/L	Magnesium
200	MG/L	Iron
670	MG/L	Sodium
160	MG/L	Potassium

erferences outside Method Acceptance Criteria for Sn.

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4453 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: TSP SCRUB /

Media: WASTEWATER

Produced by: VanCuron, Francine

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/14/2005 10:00

Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

innot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4453 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: TSP SCRUB /
Media: WASTEWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 10:00
Ending:

RESULTS	UNITS	ANALYTE
2.17	PHUN	pH
2000	MG/L	Fluoride

neasured at 20.5 C

ıalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
esumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
entification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
entification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
esence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4452 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: SRA1 /
Media: GROUNDWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 10:00
Ending:

RESULTS	UNITS	ANALYTE
5.0 U	UG/L	Silver
5.0 U	UG/L	Arsenic
5.0 U	UG/L	Barium
3.0 U	UG/L	Beryllium
2.5 U	UG/L	Cadmium
5.0 U	UG/L	Cobalt
5.0 U	UG/L	Chromium
5.0 U	UG/L	Copper
5.0 U	UG/L	Molybdenum
10 U	UG/L	Nickel
5.0 U	UG/L	Lead
5.0 U	UG/L	Antimony
10 U	UG/L	Selenium
15 UJ	UG/L	Tin
9.3 A	UG/L	Strontium
17 U	UG/L	Titanium
5.0 U	UG/L	Thallium
5.0 U	UG/L	Vanadium
3.0 U	UG/L	Yttrium
10 U	UG/L	Zinc
0.20 U	UG/L	Total Mercury
130 A	UG/L	Aluminum
8.3 A	UG/L	Manganese
6.0 A	MG/L	Calcium
0.63 A	MG/L	Magnesium
0.10 U	MG/L	Iron
3.0 A	MG/L	Sodium
1.0 U	MG/L	Potassium

S Recovery outside Method Acceptance Criteria for Sn.
trix Spike Recovery outside Method Acceptance Criteria for Sn.

Interferences outside Method Acceptance Criteria for Sn.

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
lentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
lentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4452 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: SRA1 /

Media: GROUNDWATER

Produced by: VanCuron, Francine

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/14/2005 10:00

Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

nnot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
lentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4452 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: SRA1 /
Media: GROUNDWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 10:00
Ending:

RESULTS	UNITS	ANALYTE
6.17	PHUN	pH
0.50 U	MG/L	Fluoride

measured at 20.9 C

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
lentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
lentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4460 FY 2005 Project: **05-0437**

Metals Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: DICAL TW /

Media: GROUNDWATER

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/13/2005 10:53

Ending:

RESULTS	UNITS	ANALYTE
5.0 U	UG/L	Silver
5.0 U	UG/L	Arsenic
15	UG/L	Barium
3.0 U	UG/L	Beryllium
4.9	UG/L	Cadmium
13	UG/L	Cobalt
5.0 U	UG/L	Chromium
5.0 U	UG/L	Copper
19	UG/L	Molybdenum
44	UG/L	Nickel
5.0 U	UG/L	Lead
5.0 U	UG/L	Antimony
10 U	UG/L	Selenium
86 J	UG/L	Tin
100	UG/L	Strontium
17 U	UG/L	Titanium
5.0 U	UG/L	Thallium
22	UG/L	Vanadium
38	UG/L	Yttrium
170	UG/L	Zinc
0.20 U	UG/L	Total Mercury
1000	UG/L	Aluminum
1200	UG/L	Manganese
150	MG/L	Calcium
48	MG/L	Magnesium
15	MG/L	Iron
63	MG/L	Sodium
7.8	MG/L	Potassium

S Recovery outside Method Acceptance Criteria for Sn.
erferences outside Method Acceptance Criteria for Sn.

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
lentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4460 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: DICAL TW /

Media: GROUNDWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 10:53
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

nnot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification.. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4460 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: DICAL TW /
Media: GROUNDWATER

Produced by: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 10:53
Ending:

RESULTS	UNITS	ANALYTE
6.13	PHUN	pH
0.82	MG/L	Fluoride

measured at 20.9 C

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
entification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
entification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4459 FY 2005 Project: **05-0437**

Metals Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: DEMIN SD /

Media: SEDIMENT

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 09:00
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
0.50 U	MG/KG	Silver
0.58	MG/KG	Arsenic
20	MG/KG	Barium
0.30 U	MG/KG	Beryllium
0.49	MG/KG	Cadmium
0.50 U	MG/KG	Cobalt
5.5	MG/KG	Chromium
0.50 U	MG/KG	Copper
1.2	MG/KG	Molybdenum
0.99 U	MG/KG	Nickel
1.2	MG/KG	Lead
0.50 U	MG/KG	Antimony
0.99 U	MG/KG	Selenium
1.5 UJ	MG/KG	Tin
95	MG/KG	Strontium
14	MG/KG	Titanium
0.50 U	MG/KG	Thallium
5.2	MG/KG	Vanadium
12	MG/KG	Yttrium
4.9	MG/KG	Zinc
0.048 U	MG/KG	Total Mercury
1100	MG/KG	Aluminum
17	MG/KG	Manganese
26000	MG/KG	Calcium
220	MG/KG	Magnesium
560	MG/KG	Iron
660 J	MG/KG	Sodium
440	MG/KG	Potassium
22	%	% Moisture

terferences outside Method Acceptance Criteria for Sn.
CS Recovery outside Method Acceptance Criteria for Na.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
\-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4459 FY 2005 Project: **05-0437**

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: DEMIN SD /

Media: SEDIMENT

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 09:00
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

not Exceed TCLP Regulatory Levels based on Total Scan Analyses.

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
lentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
entification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4461 FY 2005 Project: **05-0437**

Metals Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: DICAL SB /

Media: SURFACE SOIL

Produced by: VanCuron, Francine

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/12/2005 16:20

Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
0.99 U	MG/KG	Silver
1.9	MG/KG	Arsenic
20	MG/KG	Barium
1.6	MG/KG	Beryllium
2.6	MG/KG	Cadmium
1.4	MG/KG	Cobalt
49	MG/KG	Chromium
5.9	MG/KG	Copper
10	MG/KG	Molybdenum
4.8	MG/KG	Nickel
3.7	MG/KG	Lead
1.1	MG/KG	Antimony
0.99 U	MG/KG	Selenium
4.6 J	MG/KG	Tin
100	MG/KG	Strontium
320	MG/KG	Titanium
0.50 U	MG/KG	Thallium
60	MG/KG	Vanadium
22	MG/KG	Yttrium
56	MG/KG	Zinc
0.048 U	MG/KG	Total Mercury
5300	MG/KG	Aluminum
190	MG/KG	Manganese
97000	MG/KG	Calcium
550	MG/KG	Magnesium
8200	MG/KG	Iron
390 J	MG/KG	Sodium
380	MG/KG	Potassium
16 A	%	% Moisture

erferences outside Method Acceptance Criteria for Sn.
:S Recovery outside Method Acceptance Criteria for Na.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4461 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: DICAL SB /

Media: SURFACE SOIL

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/12/2005 16:20
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

innot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4447 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: LAB SED /
Media: SEDIMENT

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 11:20
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
0.99 U	MG/KG	Silver
2.1 A	MG/KG	Arsenic
51 A	MG/KG	Barium
0.60 U	MG/KG	Beryllium
1.7 A	MG/KG	Cadmium
1.2 A	MG/KG	Cobalt
19 A	MG/KG	Chromium
5.7 A	MG/KG	Copper
13 A	MG/KG	Molybdenum
3.8 A	MG/KG	Nickel
8.4 AJ	MG/KG	Lead
0.73 A	MG/KG	Antimony
0.99 U	MG/KG	Selenium
13 AJ	MG/KG	Tin
360 AJ	MG/KG	Strontium
99 A	MG/KG	Titanium
0.50 U	MG/KG	Thallium
27 A	MG/KG	Vanadium
39 A	MG/KG	Yttrium
28 A	MG/KG	Zinc
0.046 UJ	MG/KG	Total Mercury
3800 AJ	MG/KG	Aluminum
100 A	MG/KG	Manganese
110000 A	MG/KG	Calcium
2600 AJ	MG/KG	Magnesium
4000 AJ	MG/KG	Iron
1900 AJ	MG/KG	Sodium
660 A	MG/KG	Potassium
21	%	% Moisture

CS Recovery outside Method Acceptance Criteria for Na.
atrix Precision outside Method Acceptance Criteria for Pb.

Interferences outside Method Acceptance Criteria for Sn.
Matrix Spike Rec.outside Method Acceptance Criteria for Sr, Al, Mg, Fe, & Hg.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
A-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4447 FY 2005 Project: 05-0437

Metals TCLP Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: LAB SED /
Media: SEDIMENT

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/13/2005 11:20
Ending:

RESULTS	UNITS	ANALYTE
NA	MG/L	Silver
NA	MG/L	Arsenic
NA	MG/L	Barium
NA	MG/L	Cadmium
NA	MG/L	Chromium
NA	MG/L	Lead
NA	MG/L	Selenium
NA	MG/L	Total Mercury
NA	MG/L	Antimony
NA	MG/L	Beryllium
NA	MG/L	Nickel
NA	MG/L	Thallium
NA	MG/L	Vanadium
NA	MG/L	Zinc

annot Exceed TCLP Regulatory Levels based on Total Scan Analyses.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
\-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4447 FY 2005 Project: 05-0437

Extractables Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: LAB SED /

Media: SEDIMENT

Produced by: Revell, Dennis

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/13/2005 11:20

Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
400 U	UG/KG	bis(2-Chloroethyl) Ether
400 U	UG/KG	Benzaldehyde
400 U	UG/KG	Hexachloroethane
400 U	UG/KG	bis(2-Chloroisopropyl) Ether
400 U	UG/KG	n-Nitroso di-n-Propylamine
400 U	UG/KG	Acetophenone
400 U	UG/KG	Nitrobenzene
400 U	UG/KG	Hexachlorobutadiene
400 U	UG/KG	Caprolactam
400 U	UG/KG	2-Methylnaphthalene
400 U	UG/KG	1,2,4-Trichlorobenzene
400 U	UG/KG	Naphthalene
400 U	UG/KG	4-Chloroaniline
400 U	UG/KG	bis(2-Chloroethoxy)Methane
400 U	UG/KG	Isophorone
400 U	UG/KG	Hexachlorocyclopentadiene (HCCP)
400 U	UG/KG	1,1-Biphenyl
400 U	UG/KG	2-Chloronaphthalene
400 U	UG/KG	2-Nitroaniline
400 U	UG/KG	Acenaphthylene
400 U	UG/KG	Acenaphthene
400 U	UG/KG	Dimethyl Phthalate
400 U	UG/KG	Dibenzofuran
400 U	UG/KG	2,4-Dinitrotoluene
400 U	UG/KG	2,6-Dinitrotoluene
400 U	UG/KG	3-Nitroaniline
400 U	UG/KG	4-Chlorophenyl Phenyl Ether
400 U	UG/KG	4-Nitroaniline
400 U	UG/KG	Fluorene
400 U	UG/KG	Diethyl Phthalate
400 U	UG/KG	n-Nitrosodiphenylamine/Diphenylamine
400 U	UG/KG	Hexachlorobenzene (HCB)
400 U	UG/KG	Atrazine
400 U	UG/KG	4-Bromophenyl Phenyl Ether
400 U	UG/KG	Phenanthrene
400 U	UG/KG	Anthracene
400 U	UG/KG	Carbazole
400 U	UG/KG	Di-n-Butylphthalate
77 J	UG/KG	Fluoranthene
61 J	UG/KG	Pyrene
400 U	UG/KG	Benzyl Butyl Phthalate
400 U	UG/KG	bis(2-Ethylhexyl) Phthalate
400 U	UG/KG	Benzo(a)Anthracene
40 J	UG/KG	Chrysene
400 U	UG/KG	3,3'-Dichlorobenzidine
400 U	UG/KG	Di-n-Octylphthalate
400 U	UG/KG	Benzo(b)Fluoranthene
400 U	UG/KG	Benzo(k)Fluoranthene
400 U	UG/KG	Benzo-a-Pyrene
400 U	UG/KG	Indeno (1,2,3-cd) Pyrene
400 U	UG/KG	Dibenzo(a,h)Anthracene
400 U	UG/KG	Benzo(ghi)Perylene
400 U	UG/KG	2-Chlorophenol
400 U	UG/KG	2-Methylphenol
400 U	UG/KG	(3-and/or 4-)Methylphenol
400 U	UG/KG	2-Nitrophenol
400 U	UG/KG	Phenol
400 U	UG/KG	2,4-Dimethylphenol
400 U	UG/KG	2,4-Dichlorophenol
400 U	UG/KG	2,4,6-Trichlorophenol
400 U	UG/KG	2,4,5-Trichlorophenol
400 U	UG/KG	4-Chloro-3-Methylphenol
800 U	UG/KG	2,4-Dinitrophenol
800 U	UG/KG	2-Methyl-4,6-Dinitrophenol
800 U	UG/KG	Pentachlorophenol
800 U	UG/KG	4-Nitrophenol
400 U	UG/KG	2,3,4,6-Tetrachlorophenol
17.15	%	% Moisture

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4448 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL

Program: RCRE

Id/Station: QAPB1 /

Media: GROUNDWATER

Produced by: VanGuilder, Pauline

Requestor: Jeff Pallas

Project Leader: KSIMMONS

Beginning: 04/14/2005 13:41

Ending:

RESULTS	UNITS	ANALYTE
5.0 U	UG/L	Silver
5.0 U	UG/L	Arsenic
5.0 U	UG/L	Barium
3.0 U	UG/L	Beryllium
2.5 U	UG/L	Cadmium
5.0 U	UG/L	Cobalt
5.0 U	UG/L	Chromium
5.0 U	UG/L	Copper
5.0 U	UG/L	Molybdenum
10 U	UG/L	Nickel
5.0 U	UG/L	Lead
5.0 U	UG/L	Antimony
10 U	UG/L	Selenium
15 UJ	UG/L	Tin
5.0 U	UG/L	Strontium
17 U	UG/L	Titanium
5.0 U	UG/L	Thallium
5.0 U	UG/L	Vanadium
3.0 U	UG/L	Yttrium
10 U	UG/L	Zinc
0.20 U	UG/L	Total Mercury
50 U	UG/L	Aluminum
5.0 U	UG/L	Manganese
0.25 U	MG/L	Calcium
0.25 U	MG/L	Magnesium
0.10 U	MG/L	Iron
1.0 U	MG/L	Sodium
1.0 U	MG/L	Potassium

CS Recovery outside Method Acceptance Criteria for Sn.
terferences outside Method Acceptance Criteria for Sn.

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
dentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
\-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4449 FY 2005 Project: 05-0437

Metals Scan

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: QAPB2 /
Media: GROUNDWATER

Produced by: VanCuron, Francine
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 13:42
Ending:

RESULTS	UNITS	ANALYTE
5.0 U	UG/L	Silver
5.0 U	UG/L	Arsenic
5.0 U	UG/L	Barium
3.0 U	UG/L	Beryllium
2.5 U	UG/L	Cadmium
5.0 U	UG/L	Cobalt
5.0 U	UG/L	Chromium
5.0 U	UG/L	Copper
5.0 U	UG/L	Molybdenum
10 U	UG/L	Nickel
5.0 U	UG/L	Lead
5.0 U	UG/L	Antimony
10 U	UG/L	Selenium
15 UJ	UG/L	Tin
5.0 U	UG/L	Strontium
17 U	UG/L	Titanium
5.0 U	UG/L	Thallium
5.0 U	UG/L	Vanadium
3.0 U	UG/L	Yttrium
10 U	UG/L	Zinc
0.20 U	UG/L	Total Mercury
50 U	UG/L	Aluminum
5.0 U	UG/L	Manganese
0.25 U	MG/L	Calcium
0.25 U	MG/L	Magnesium
0.10 U	MG/L	Iron
1.0 U	MG/L	Sodium
1.0 U	MG/L	Potassium

S Recovery outside Method Acceptance Criteria for Sn.
erferences outside Method Acceptance Criteria for Sn.

nalyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
resumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
dentification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
lentification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
resence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4450 FY 2005 Project: 05-0437

SPECIFIED TESTS

Facility: PCS Phosphate White Springs, FL
Program: RCRE
Id/Station: QAPB3 /
Media: GROUNDWATER

Produced By: Adams, Daniel
Requestor: Jeff Pallas
Project Leader: KSIMMONS
Beginning: 04/14/2005 13:42
Ending:

RESULTS	UNITS	ANALYTE
10 U	MG/L	Total Organic Carbon

Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Appendix B

NAREL Analytical Data Sheets

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RADIATION AND INDOOR AIR
National Air and Radiation Environmental Laboratory
540 South Morris Avenue, Montgomery, AL 36115-2601
(334) 270-3400

June 30, 2005

MEMORANDUM

SUBJECT: Radiochemical Results for
PCS Phosphate Suwannee River Complex Samples

FROM: John Griggs, Chief
Monitoring and Analytical Services Branch

TO: Kevin Simmons, Life Scientist
Science and Ecosystem Support Division, Region 4

Attached are data packages for gamma and gross alpha and beta analyses of samples collected from the PCS Phosphate Suwannee River Complex site in White Springs, Florida. The samples constitute NAREL batch numbers 0500025 through 0500029.

Radiochemical analyses usually require the subtraction of an instrument background measurement from a gross sample measurement. Both values are positive, but when the sample activity is low, random variations in the two measurements can cause the gross value to be less than the background, resulting in a measured activity less than zero. Although negative activities have no physical significance, they do have statistical significance, as for example in the evaluation of trends or the comparison of two groups of samples.

For all analyses except gamma spectroscopy, it is the policy of NAREL to report results as generated, whether positive, negative, or zero, together with the 2-sigma measurement uncertainty and a sample-specific estimate of the minimum detectable concentration (MDC). The activity, uncertainty, and MDC are given in the same units. The activity and 2-sigma uncertainty for a radionuclide measured by gamma spectroscopy are reported only if the nuclide is detected; so, the results of gamma analyses are never zero or negative. Nuclides that are not detected do not appear in the report, with the exception of Ba-140, Cs-137, I-131, K-40, Ra-226, and Ra-228. If one of these six nuclides is undetected, NAREL reports it as "Not Detected," or "ND," and provides a sample-specific estimate of the MDC.

Specific information concerning all aspects of the radiological analysis of the samples is contained in the batch case narratives of the data packages. If you have any questions concerning the analytical results, please contact me at (334)270-3450.

Attachments

cc: Jon Richards, Region 4, w/o attachments
Mary Clark, (6601J), w/o attachments
Ron Fraass, NAREL

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES

REPORT OF SAMPLE DELIVERY GROUP #0500025

Project: PCS PHOS SUWANNEE
Analysis Procedure: Gamma Spectrometry
Date Reported: 06/15/2005

SAMPLES

NAREL Sample #	Client Sample ID	Type	Matrix	Date Collected	Date Received
A5.02012X	COMB Y	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02013Y	COMB Z	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02014Z	COOLER Y	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02015A	COOLER Z	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02016B	DEMIN	SAM	WATER-WASTE	04/14/2005	04/19/2005
A5.02020X	DMSCRUB	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02021Y	DO WASH	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02022Z	DRYER Y	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02023A	DRYER Z	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02024B	DUST Z	SAM	WATER-WASTE	04/14/2005	04/19/2005
A5.02025C	HOTSUMP Y	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02028F	RAILCAR	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02030Z	TSP SCRUB	SAM	WATER-WASTE	04/14/2005	04/19/2005

EXCEPTIONS

1. Packaging and Shipping - No problems were observed.
2. Documentation - No problems were observed.
3. Sample Preparation - No problems were encountered.
4. Analysis - No problems were encountered.
5. Holding Times - All holding times were met.

QUALITY CONTROL

1. QC samples - All QC analysis results met NAREL acceptance criteria.
2. Instruments - Response and background checks for all instruments used in these analyses met NAREL acceptance criteria.

CERTIFICATION

I certify that this data report complies with the terms and conditions of the Quality Assurance Project Plan, except as noted above. Release of the data contained in this report has been authorized by the Chief of the Monitoring and Analytical Services Branch and the NAREL Quality Assurance Coordinator, or their designees, as verified by the following signatures.

Mary Wisdom 6/29/05

Mary F. Wisdom — Date
Quality Assurance Coordinator

John Griggs 6/30/05

John Griggs, Ph.D. — Date
Chief, Monitoring and Analytical Services Branch

GENERAL INFORMATION

SAMPLE TYPES

BLD	Blind sample
FBK	Field blank
SAM	Normal sample

ANALYSIS QC TYPES

ANA	Normal analysis
DUP	Laboratory duplicate
LCS	Laboratory control sample (blank spike)
MS	Matrix spike
MSD	Matrix spike duplicate
RBK	Reagent blank

QUALITY INDICATORS

RPD	Relative Percent Difference
%R	Percent Recovery
Z	Number of standard deviations by which a QC measurement differs from the expected value

EVALUATION OF QC ANALYSES

A reagent blank result is considered unacceptable if it is more than 3 standard deviations below zero or more than 3 standard deviations above a predetermined upper control limit. For some analyses NAREL has set the upper control limit at zero. For others the control limit is a small positive number.

NAREL evaluates the results of duplicate and spike analyses using "*Z* scores." A *Z* score is the number of standard deviations by which the QC result differs from its ideal value. The score is considered acceptable if its absolute value is not greater than 3.

The *Z* score for a spiked sample is computed by dividing the difference between the measured value and the target value by the combined standard uncertainty of the difference.

The *Z* score for a duplicate analysis is computed by dividing the difference between the two measured values by the combined standard uncertainty of the difference. When the precision of paired MS/MSD analyses is evaluated, the native sample activity is subtracted from each measured value and the net concentrations are then converted to total activities before the *Z* score is computed.

Each standard uncertainty used to compute a *Z* score includes an additional fixed term to represent sources of measurement error other than counting error. This additional term is not used in the evaluation of reagent blanks.

NAREL reports the "relative percent difference," or RPD, between duplicate results and the "percent recovery," or %R, for spiked analyses, but does not use these values for evaluation.

GENERAL INFORMATION (CONTINUED)

GAMMA ANALYSIS

The reporting format lists the gamma emitters in alphabetical order. The activity and 2-sigma uncertainty for radionuclides measured by gamma spectroscopy are reported only if the nuclide is detected. Nuclides that are not detected do not appear in the report, with the exception of Ba-140, Co-60, Cs-137, I-131, K-40, Ra-226 and Ra-228. If one of these seven nuclides is undetected, NAREL reports it as "Not Detected" or "ND", and provides a sample-specific estimate of the MDC.

Due to potential spectral interferences and other possible problems associated with the determination of the activity of certain radionuclides, the activities for Bi-214, Pb-214, Th-234, Pa-234m, Ra-226, Th-231, and U-235 are subject to greater possible uncertainty than other commonly reported radionuclides. It should be noted that this potential uncertainty is not included in the two-sigma counting uncertainty which is reported with each activity. Although in this report we do provide the calculated activities for these radionuclides, we recommend that the results be used only as a qualitative means of indicating the presence of these radionuclides and not as a quantitative measure of their concentration. The results for these nuclides are not used in the evaluation of quality control samples. Furthermore, because of mutual interference between Ra-226 and U-235, NAREL's gamma analysis software tends to overestimate the amounts of these nuclides whenever both are present in a sample. Lower estimates for Ra-226 activities can be obtained from the reported activities of its decay products, Pb-214 and Bi-214, which are likely to be somewhat less than the Ra-226 activity because of the potential escape of radon gas.

NAREL's gamma spectroscopy software corrects activities and MDCs for decay between collection and analysis, but only up to a limit of ten half-lives. So, if the decay time for a sample is more than ten half-lives of a radionuclide, that nuclide will almost always be undetected and the reported MDC will be meaningless. This is usually a problem only for short-lived radionuclides, such as I-131 and Ba-140, when there is a long delay between collection and analysis.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

ANALYSIS SUMMARY

Analysis Procedure: NAREL GAM-01
Title: Gamma Spectrometry

NAREL Sample #	QC Type	Preparation Procedure	Date Completed	Prep Batch #	QC Batch #
A5.02012X		N/A	04/22/2005	0009640T	0003691U
A5.02013Y		N/A	04/23/2005	0009640T	0003691U
A5.02014Z		N/A	04/23/2005	0009640T	0003691U
A5.02015A		N/A	04/23/2005	0009640T	0003691U
A5.02016B		N/A	04/23/2005	0009640T	0003691U
A5.02020X		N/A	04/24/2005	0009640T	0003691U
A5.02020X	DUP	N/A	04/26/2005	0009640T	0003691U
A5.02021Y		N/A	04/24/2005	0009640T	0003691U
A5.02022Z		N/A	04/24/2005	0009640T	0003691U
A5.02023A		N/A	04/24/2005	0009640T	0003691U
A5.02024B		N/A	04/24/2005	0009640T	0003691U
A5.02025C		N/A	04/25/2005	0009640T	0003691U
A5.02028F		N/A	04/23/2005	0009640T	0003691U
A5.02030Z		N/A	04/26/2005	0009640T	0003691U

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02012X	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/22/2005 15:39	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		1.4e+01	PCI/L	04/13/2005
Be7		1.47e+01	9.9e+00		PCI/L	04/13/2005
Bi212		2.44e+01	1.5e+01		PCI/L	04/13/2005
Co60		ND		2.3e+00	PCI/L	04/13/2005
Cs137		ND		2.5e+00	PCI/L	04/13/2005
I131		ND		5.6e+00	PCI/L	04/13/2005
K40		1.29e+02	1.9e+01		PCI/L	04/13/2005
Pa234m	*	6.94e+02	1.5e+02		PCI/L	04/13/2005
Pb210		ND		7.6e+02	PCI/L	04/13/2005
Pb212		2.34e+01	3.8e+00		PCI/L	04/13/2005
Ra226	*	6.61e+01	4.8e+01		PCI/L	04/13/2005
Ra228		ND		1.6e+01	PCI/L	04/13/2005
Th227		1.65e+01	1.2e+01		PCI/L	04/13/2005
Th234	*	4.58e+02	5.9e+01		PCI/L	04/13/2005
Tl208		7.84e+00	1.7e+00		PCI/L	04/13/2005
U235	*	4.18e+01	3.7e+00		PCI/L	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02013Y	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/22/2005 20:41	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		1.5e+01	PCI/L	04/13/2005
Bi214	*	1.13e+01	3.0e+00		PCI/L	04/13/2005
Co60		ND		2.5e+00	PCI/L	04/13/2005
Cs137		ND		2.4e+00	PCI/L	04/13/2005
I131		ND		6.0e+00	PCI/L	04/13/2005
K40		2.00e+02	2.3e+01		PCI/L	04/13/2005
Pa234m	*	1.02e+03	1.6e+02		PCI/L	04/13/2005
Pb210		ND		8.2e+02	PCI/L	04/13/2005
Pb212		8.91e+00	3.3e+00		PCI/L	04/13/2005
Ra226	*	2.17e+02	5.1e+01		PCI/L	04/13/2005
Ra228		ND		1.5e+01	PCI/L	04/13/2005
Th227		5.74e+00	4.5e+00		PCI/L	04/13/2005
Th234	*	5.88e+02	6.0e+01		PCI/L	04/13/2005
Tl208		2.67e+00	1.4e+00		PCI/L	04/13/2005
U235	*	3.50e+01	3.6e+00		PCI/L	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02014Z	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/23/2005 01:43	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		1.2e+01	PCI/L	04/13/2005
Co60		ND		2.1e+00	PCI/L	04/13/2005
Cs137		ND		2.6e+00	PCI/L	04/13/2005
I131		ND		6.0e+00	PCI/L	04/13/2005
K40		1.15e+02	1.8e+01		PCI/L	04/13/2005
Pa234m	*	3.44e+02	1.4e+02		PCI/L	04/13/2005
Pb210		ND		6.6e+02	PCI/L	04/13/2005
Pb212		2.95e+00	2.8e+00		PCI/L	04/13/2005
Pb214	*	5.25e+00	2.8e+00		PCI/L	04/13/2005
Ra226	*	4.69e+02	5.3e+01		PCI/L	04/13/2005
Ra228		ND		1.5e+01	PCI/L	04/13/2005
Th234	*	2.82e+02	4.0e+01		PCI/L	04/13/2005
U235	*	2.98e+01	3.3e+00		PCI/L	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02015A	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/23/2005 06:46	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		1.4e+01	PCI/L	04/13/2005
Bi212		1.44e+01	1.6e+01		PCI/L	04/13/2005
Co60		ND		2.7e+00	PCI/L	04/13/2005
Cs137		ND		2.4e+00	PCI/L	04/13/2005
I131		ND		6.0e+00	PCI/L	04/13/2005
K40		2.13e+02	2.3e+01		PCI/L	04/13/2005
Pa234m	*	9.69e+02	1.6e+02		PCI/L	04/13/2005
Pb210		ND		7.9e+02	PCI/L	04/13/2005
Pb212		9.98e+00	3.2e+00		PCI/L	04/13/2005
Ra226	*	2.91e+02	5.3e+01		PCI/L	04/13/2005
Ra228		ND		1.5e+01	PCI/L	04/13/2005
Th227		4.71e+00	4.4e+00		PCI/L	04/13/2005
Th234	*	6.06e+02	5.9e+01		PCI/L	04/13/2005
Tl208		3.59e+00	1.6e+00		PCI/L	04/13/2005
U235	*	3.30e+01	3.5e+00		PCI/L	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02016B	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/23/2005 11:48	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140	ND		1.2e+01	PCI/L	04/14/2005
Co60	ND		2.3e+00	PCI/L	04/14/2005
Cs137	ND		2.3e+00	PCI/L	04/14/2005
I131	ND		5.4e+00	PCI/L	04/14/2005
K40	ND		2.0e+01	PCI/L	04/14/2005
Pb210	ND		6.2e+02	PCI/L	04/14/2005
Ra226	ND		5.9e+01	PCI/L	04/14/2005
Ra228	ND		1.3e+01	PCI/L	04/14/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02020X	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/23/2005 21:52	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		1.5e+01	PCI/L	04/13/2005
Be7		1.74e+01	1.2e+01		PCI/L	04/13/2005
Co60		ND		1.9e+00	PCI/L	04/13/2005
Cs137		ND		2.6e+00	PCI/L	04/13/2005
I131		ND		6.4e+00	PCI/L	04/13/2005
K40		1.31e+02	1.9e+01		PCI/L	04/13/2005
Pa234m	*	4.12e+02	1.3e+02		PCI/L	04/13/2005
Pb210		ND		7.5e+02	PCI/L	04/13/2005
Pb214	*	6.02e+00	2.9e+00		PCI/L	04/13/2005
Ra226	*	1.53e+02	4.3e+01		PCI/L	04/13/2005
Ra228		ND		1.4e+01	PCI/L	04/13/2005
Th234	*	4.50e+02	5.6e+01		PCI/L	04/13/2005
Tl208		1.30e+00	1.4e+00		PCI/L	04/13/2005
U235	*	2.49e+01	2.9e+00		PCI/L	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02020X	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	DUP

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/25/2005 16:55	1000.0	GE16	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		9.7e+00	PCI/L	04/13/2005
Be7		1.12e+01	6.2e+00		PCI/L	04/13/2005
Bi214	*	5.43e+00	2.3e+00		PCI/L	04/13/2005
Co60		ND		1.8e+00	PCI/L	04/13/2005
Cs137		ND		1.6e+00	PCI/L	04/13/2005
I131		ND		3.9e+00	PCI/L	04/13/2005
K40		1.30e+02	1.7e+01		PCI/L	04/13/2005
Pa234m	*	3.94e+02	8.4e+01		PCI/L	04/13/2005
Pb210	*	1.04e+02	3.0e+01		PCI/L	04/13/2005
Pb212		3.33e+00	1.5e+00		PCI/L	04/13/2005
Pb214	*	7.41e+00	2.0e+00		PCI/L	04/13/2005
Ra226	*	2.89e+01	2.9e+01		PCI/L	04/13/2005
Ra228		ND		1.1e+01	PCI/L	04/13/2005
Th234	*	3.41e+02	2.4e+01		PCI/L	04/13/2005
Tl208		9.23e-01	1.0e+00		PCI/L	04/13/2005
U235	*	3.14e+01	2.5e+00		PCI/L	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02021Y	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/24/2005 02:54	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		1.4e+01	PCI/L	04/13/2005
Co60		ND		2.2e+00	PCI/L	04/13/2005
Cs137		ND		2.3e+00	PCI/L	04/13/2005
I131		ND		6.1e+00	PCI/L	04/13/2005
K40		1.08e+02	1.8e+01		PCI/L	04/13/2005
Pb210		ND		7.3e+02	PCI/L	04/13/2005
Pb212		2.20e+00	2.8e+00		PCI/L	04/13/2005
Pb214	*	6.89e+00	3.4e+00		PCI/L	04/13/2005
Ra226	*	4.32e+01	4.2e+01		PCI/L	04/13/2005
Ra228		ND		1.4e+01	PCI/L	04/13/2005
Th234	*	1.10e+02	4.3e+01		PCI/L	04/13/2005
Tl208		1.17e+00	1.4e+00		PCI/L	04/13/2005
U235	*	2.56e+01	2.9e+00		PCI/L	04/13/2005

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U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02022Z	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/24/2005 07:57	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		1.4e+01	PCI/L	04/13/2005
Be7		2.03e+01	1.1e+01		PCI/L	04/13/2005
Co60		ND		2.4e+00	PCI/L	04/13/2005
Cs137		ND		2.4e+00	PCI/L	04/13/2005
I131		ND		5.9e+00	PCI/L	04/13/2005
K40		1.08e+02	1.8e+01		PCI/L	04/13/2005
Pa234m	*	4.16e+02	1.3e+02		PCI/L	04/13/2005
Pb210		ND		7.2e+02	PCI/L	04/13/2005
Pb212		5.21e+00	3.2e+00		PCI/L	04/13/2005
Pb214	*	5.55e+00	2.9e+00		PCI/L	04/13/2005
Ra226	*	1.54e+02	4.5e+01		PCI/L	04/13/2005
Ra228		ND		1.4e+01	PCI/L	04/13/2005
Th234	*	3.51e+02	4.7e+01		PCI/L	04/13/2005
Tl208		2.60e+00	1.3e+00		PCI/L	04/13/2005
U235	*	2.05e+01	2.9e+00		PCI/L	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

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GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02023A	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/24/2005 12:59	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		1.6e+01	PCI/L	04/13/2005
Co60		ND		2.6e+00	PCI/L	04/13/2005
Cs137		ND		2.7e+00	PCI/L	04/13/2005
I131		ND		6.8e+00	PCI/L	04/13/2005
K40		2.27e+02	2.4e+01		PCI/L	04/13/2005
Pa234m	*	9.88e+02	1.7e+02		PCI/L	04/13/2005
Pb210		ND		8.1e+02	PCI/L	04/13/2005
Pb212		7.21e+00	2.8e+00		PCI/L	04/13/2005
Pb214	*	1.92e+01	3.6e+00		PCI/L	04/13/2005
Ra223		2.02e+01	8.6e+00		PCI/L	04/13/2005
Ra226	*	2.71e+02	5.3e+01		PCI/L	04/13/2005
Ra228		ND		1.4e+01	PCI/L	04/13/2005
Th234	*	7.63e+02	7.0e+01		PCI/L	04/13/2005
Tl208		3.46e+00	1.6e+00		PCI/L	04/13/2005
U235	*	3.85e+01	3.7e+00		PCI/L	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02024B	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/24/2005 18:01	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		1.4e+01	PCI/L	04/14/2005
Co60		ND		2.5e+00	PCI/L	04/14/2005
Cs137		ND		2.6e+00	PCI/L	04/14/2005
I131		ND		6.4e+00	PCI/L	04/14/2005
K40		2.60e+02	2.5e+01		PCI/L	04/14/2005
Pa234m	*	9.85e+02	1.6e+02		PCI/L	04/14/2005
Pb210		ND		8.4e+02	PCI/L	04/14/2005
Pb212		9.21e+00	3.1e+00		PCI/L	04/14/2005
Pb214	*	1.86e+01	3.9e+00		PCI/L	04/14/2005
Ra223		1.94e+01	9.4e+00		PCI/L	04/14/2005
Ra226		ND		7.0e+01	PCI/L	04/14/2005
Ra228		ND		1.6e+01	PCI/L	04/14/2005
Th234	*	7.20e+02	7.3e+01		PCI/L	04/14/2005
Tl208		4.54e+00	1.6e+00		PCI/L	04/14/2005
U235	*	5.44e+01	4.3e+00		PCI/L	04/14/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02025C	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/24/2005 23:03	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		1.5e+01	PCI/L	04/13/2005
Co60		ND		2.1e+00	PCI/L	04/13/2005
Cs137		ND		2.5e+00	PCI/L	04/13/2005
I131		ND		7.0e+00	PCI/L	04/13/2005
K40		1.12e+02	1.8e+01		PCI/L	04/13/2005
Pb210		ND		7.0e+02	PCI/L	04/13/2005
Pb212		4.20e+00	3.1e+00		PCI/L	04/13/2005
Pb214	*	6.14e+00	3.1e+00		PCI/L	04/13/2005
Ra226	*	4.67e+02	4.9e+01		PCI/L	04/13/2005
Ra228		ND		1.6e+01	PCI/L	04/13/2005
Tl208		1.28e+00	1.3e+00		PCI/L	04/13/2005
U235	*	2.95e+01	3.0e+00		PCI/L	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
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GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02028F	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/22/2005 16:36	1000.0	GE15	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		9.6e+00	PCI/L	04/13/2005
Co60		ND		2.1e+00	PCI/L	04/13/2005
Cs137		ND		1.8e+00	PCI/L	04/13/2005
I131		ND		3.7e+00	PCI/L	04/13/2005
K40		9.09e+01	1.2e+01		PCI/L	04/13/2005
Pa234m	*	3.32e+02	9.0e+01		PCI/L	04/13/2005
Pb210		ND		4.5e+01	PCI/L	04/13/2005
Pb212		2.07e+00	2.0e+00		PCI/L	04/13/2005
Ra226	*	6.14e+01	2.3e+01		PCI/L	04/13/2005
Ra228		ND		1.1e+01	PCI/L	04/13/2005
Th234	*	2.11e+02	1.8e+01		PCI/L	04/13/2005
U235	*	2.15e+01	1.8e+00		PCI/L	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02030Z	QC batch #:	0003691U
Matrix:	WATER-WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/25/2005 21:07	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		1.8e+01	PCI/L	04/14/2005
Bi212		2.41e+01	1.7e+01		PCI/L	04/14/2005
Co60		ND		2.4e+00	PCI/L	04/14/2005
Cs137		ND		2.9e+00	PCI/L	04/14/2005
I131		ND		7.5e+00	PCI/L	04/14/2005
K40		1.20e+02	1.9e+01		PCI/L	04/14/2005
Pa234m	*	7.62e+02	1.6e+02		PCI/L	04/14/2005
Pb210		ND		8.3e+02	PCI/L	04/14/2005
Pb212		1.90e+01	3.4e+00		PCI/L	04/14/2005
Pb214	*	1.88e+01	3.6e+00		PCI/L	04/14/2005
Ra226	*	2.99e+02	5.1e+01		PCI/L	04/14/2005
Ra228		ND		1.4e+01	PCI/L	04/14/2005
Th227		1.16e+01	8.5e+00		PCI/L	04/14/2005
Th234	*	6.40e+02	6.7e+01		PCI/L	04/14/2005
Tl208		5.91e+00	1.6e+00		PCI/L	04/14/2005
U235	*	2.67e+01	3.3e+00		PCI/L	04/14/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500025

QC BATCH SUMMARY

QC batch #: 0003691U
Preparation procedure: N/A
Analysis procedure: NAREL GAM-01

NAREL Sample #	QC Type	Yield (%)	± 2σ Uncertainty (%)	Analyst
A5.02012X		N/A		DPS
A5.02013Y		N/A		DPS
A5.02014Z		N/A		DPS
A5.02015A		N/A		DPS
A5.02016B		N/A		DPS
A5.02020X		N/A		DPS
A5.02020X	DUP	N/A		DPS
A5.02021Y		N/A		DPS
A5.02022Z		N/A		DPS
A5.02023A		N/A		DPS
A5.02024B		N/A		DPS
A5.02025C		N/A		DPS
A5.02028F		N/A		DPS
A5.02030Z		N/A		DPS

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

National Air and Radiation Environmental Laboratory
QC Batch Report

Batch #: 0003691U Analytical Procedure: NAREL GAM-01

LABORATORY DUPLICATES (PCI/L)

mple ID	Nuclide	Original ± 2σ	Duplicate ± 2σ	RPD	Z
5.02020X	BA140				
5.02020X	BE7	1.74e+01 ± 1.2e+01	1.12e+01 ± 6.2e+00	43.36	-0.91 OK
5.02020X	CO60				
5.02020X	CS137				
5.02020X	I131				
5.02020X	K40	1.31e+02 ± 1.9e+01	1.30e+02 ± 1.7e+01	0.77	-0.06 OK
5.02020X	RA228				
5.02020X	TL208	1.30e+00 ± 1.4e+00	9.23e-01 ± 1.0e+00	33.92	-0.43 OK

nalyst: X David P Saunders 6/28/05
Saunders, David P.

A Officer: Kirk D. McLaren 6/22/05

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES

REPORT OF SAMPLE DELIVERY GROUP #0500025

Project: PCS PHOS SUWANNEE
Analysis Procedure: Gross Alpha and Beta on Water Samples
Date Reported: 06/20/2005

SAMPLES

NAREL Sample #	Client Sample ID	Type	Matrix	Date Collected	Date Received
A5.02012X	COMB Y	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02013Y	COMB Z	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02014Z	COOLER Y	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02015A	COOLER Z	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02016B	DEMIN	SAM	WATER-WASTE	04/14/2005	04/19/2005
A5.02020X	DMSCRUB	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.0202IY	DO WASH	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02022Z	DRYER Y	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02023A	DRYER Z	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02024B	DUST Z	SAM	WATER-WASTE	04/14/2005	04/19/2005
A5.02025C	HOTSUMP Y	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02028F	RAILCAR	SAM	WATER-WASTE	04/13/2005	04/19/2005
A5.02030Z	TSP SCRUB	SAM	WATER-WASTE	04/14/2005	04/19/2005

EXCEPTIONS

1. Packaging and Shipping - No problems were observed.
2. Documentation - No problems were observed.
3. Sample Preparation - No problems were encountered.
4. Analysis - No problems were encountered.
5. Holding Times - All holding times were met.

QUALITY CONTROL

1. QC samples - All QC analysis results met NAREL acceptance criteria.
2. Yields - All chemical yields were within acceptance limits.
3. Instruments - Response and background checks for all instruments used in these analyses met NAREL acceptance criteria.

CERTIFICATION

I certify that this data report complies with the terms and conditions of the Quality Assurance Project Plan, except as noted above. Release of the data contained in this report has been authorized by the Chief of the Monitoring and Analytical Services Branch and the NAREL Quality Assurance Coordinator, or their designees, as verified by the following signatures.

Mary Wisdom 6/29/05

Mary F. Wisdom — Date
Quality Assurance Coordinator

John Griggs 6/30/05

John Griggs, Ph.D. — Date
Chief, Monitoring and Analytical Services Branch

GENERAL INFORMATION

SAMPLE TYPES

BLD	Blind sample
FBK	Field blank
SAM	Normal sample

ANALYSIS QC TYPES

ANA	Normal analysis
DUP	Laboratory duplicate
LCS	Laboratory control sample (blank spike)
MS	Matrix spike
MSD	Matrix spike duplicate
RBK	Reagent blank

QUALITY INDICATORS

RPD	Relative Percent Difference
%R	Percent Recovery
Z	Number of standard deviations by which a QC measurement differs from the expected value

EVALUATION OF QC ANALYSES

A reagent blank result is considered unacceptable if it is more than 3 standard deviations below zero or more than 3 standard deviations above a predetermined upper control limit. For some analyses NAREL has set the upper control limit at zero. For others the control limit is a small positive number.

NAREL evaluates the results of duplicate and spike analyses using "*Z* scores." A *Z* score is the number of standard deviations by which the QC result differs from its ideal value. The score is considered acceptable if its absolute value is not greater than 3.

The *Z* score for a spiked sample is computed by dividing the difference between the measured value and the target value by the combined standard uncertainty of the difference.

The *Z* score for a duplicate analysis is computed by dividing the difference between the two measured values by the combined standard uncertainty of the difference. When the precision of paired MS/MSD analyses is evaluated, the native sample activity is subtracted from each measured value and the net concentrations are then converted to total activities before the *Z* score is computed.

Each standard uncertainty used to compute a *Z* score includes an additional fixed term to represent sources of measurement error other than counting error. This additional term is not used in the evaluation of reagent blanks.

NAREL reports the "relative percent difference," or RPD, between duplicate results and the "percent recovery," or %R, for spiked analyses, but does not use these values for evaluation.

GENERAL INFORMATION (CONTINUED)

GROSS ALPHA AND BETA ANALYSIS

In comparison to the methods employed to determine radionuclide-specific activities, the method employed by NAREL to determine gross alpha and beta activity in water samples has the potential for greater analytical bias. It should be noted that this potential analytical uncertainty is not included in the two-sigma counting uncertainty term. Therefore, gross alpha and beta results should be used as gross approximations of the alpha and beta activity present.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500025

ANALYSIS SUMMARY

Analysis Procedure: NAREL GR-01
Title: Gross Alpha and Beta on Water Samples

NAREL Sample #	QC Type	Preparation Procedure	Date Completed	Prep Batch #	QC Batch #
A5.02012X		N/A	05/24/2005	0009722U	0003723J
A5.02013Y		N/A	05/24/2005	0009722U	0003723J
A5.02013Y	DUP	N/A	05/24/2005	0009722U	0003723J
A5.02014Z		N/A	05/24/2005	0009722U	0003723J
A5.02015A		N/A	05/24/2005	0009722U	0003723J
A5.02016B		N/A	05/24/2005	0009722U	0003723J
A5.02020X		N/A	05/24/2005	0009722U	0003723J
A5.02021Y		N/A	05/24/2005	0009722U	0003723J
A5.02022Z		N/A	05/24/2005	0009722U	0003723J
A5.02023A		N/A	05/25/2005	0009722U	0003723J
A5.02024B		N/A	05/25/2005	0009722U	0003723J
A5.02025C		N/A	05/25/2005	0009722U	0003723J
A5.02028F		N/A	05/25/2005	0009722U	0003723J
A5.02030Z		N/A	05/25/2005	0009722U	0003723J

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02012X	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 18:04	100.0	G54A	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	3.43e+03	5.0e+02	1.5e+02	PCI/L	05/24/2005
Beta	2.08e+03	1.3e+02	9.3e+01	PCI/L	05/24/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
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ALPBET ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02013Y	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 18:04	100.0	G54B	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	3.43e+03	4.7e+02	1.7e+02	PCI/L	05/24/2005
Beta	2.20e+03	1.3e+02	8.6e+01	PCI/L	05/24/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02013Y	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	DUP

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 18:04	100.0	G54D	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	3.15e+03	4.6e+02	1.3e+02	PCI/L	05/24/2005
Beta	2.32e+03	1.3e+02	8.7e+01	PCI/L	05/24/2005

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ALPBET ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02014Z	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 19:45	100.0	G54A	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	1.65e+03	3.1e+02	1.2e+02	PCI/L	05/24/2005
Beta	9.74e+02	8.6e+01	7.0e+01	PCI/L	05/24/2005

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SAMPLE ANALYSIS REPORT

Sample #:	A5.02015A	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 19:45	100.0	G54B	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	3.07e+03	4.6e+02	1.7e+02	PCI/L	05/24/2005
Beta	2.42e+03	1.3e+02	8.6e+01	PCI/L	05/24/2005

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ALPBET ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02016B	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	2.000e+02 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 19:45	100.0	G54D	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	6.23e+00	8.3e+00	6.1e+00	PCI/L	05/24/2005
Beta	3.24e+00	2.1e+00	2.9e+00	PCI/L	05/24/2005

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ALPBET ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02020X	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 21:25	100.0	G54A	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	1.80e+03	3.4e+02	1.3e+02	PCI/L	05/24/2005
Beta	8.24e+02	8.3e+01	7.4e+01	PCI/L	05/24/2005

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SAMPLE ANALYSIS REPORT

Sample #:	A5.02021Y	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 21:25	100.0	G54B	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	1.63e+03	3.3e+02	1.6e+02	PCI/L	05/24/2005
Beta	1.21e+03	9.6e+01	7.1e+01	PCI/L	05/24/2005

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ALPBET ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02022Z	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 21:25	100.0	G54D	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	1.95e+03	3.4e+02	1.1e+02	PCI/L	05/24/2005
Beta	1.01e+03	8.9e+01	7.3e+01	PCI/L	05/24/2005

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ALPBET ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02023A	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 23:05	100.0	G54A	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	2.84e+03	4.6e+02	1.5e+02	PCI/L	05/24/2005
Beta	2.71e+03	1.4e+02	8.8e+01	PCI/L	05/24/2005

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ALPBET ANALYSES
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SAMPLE ANALYSIS REPORT

Sample #:	A5.02024B	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 23:05	100.0	G54B	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	3.09e+03	4.7e+02	1.8e+02	PCI/L	05/24/2005
Beta	2.85e+03	1.5e+02	8.8e+01	PCI/L	05/24/2005

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ALPBET ANALYSES
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SAMPLE ANALYSIS REPORT

Sample #:	A5.02025C	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 23:05	100.0	G54D	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	2.25e+03	3.7e+02	1.2e+02	PCI/L	05/24/2005
Beta	1.23e+03	9.7e+01	7.6e+01	PCI/L	05/24/2005

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ALPBET ANALYSES
SDG #0500025

SAMPLE ANALYSIS REPORT

Sample #:	A5.02028F	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/25/2005 00:45	100.0	G54A	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	1.28e+03	2.9e+02	1.2e+02	PCI/L	05/25/2005
Beta	5.50e+02	7.0e+01	6.8e+01	PCI/L	05/25/2005

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SAMPLE ANALYSIS REPORT

Sample #:	A5.02030Z	QC batch #:	0003723J
Matrix:	WATER-WASTE	Prep batch #:	0009722U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/25/2005 00:45	100.0	G54B	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	2.33e+03	3.8e+02	1.6e+02	PCI/L	05/25/2005
Beta	1.47e+03	1.0e+02	7.7e+01	PCI/L	05/25/2005

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NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500025

QC BATCH SUMMARY

QC batch #: 0003723J
Preparation procedure: N/A
Analysis procedure: NAREL GR-01

NAREL Sample #	QC Type	Yield (%)	± 2σ Uncertainty (%)	Analyst
A5.02012X		N/A		VH
A5.02013Y		N/A		VH
A5.02013Y	DUP	N/A		VH
A5.02014Z		N/A		VH
A5.02015A		N/A		VH
A5.02016B		N/A		VH
A5.02020X		N/A		VH
A5.02021Y		N/A		VH
A5.02022Z		N/A		VH
A5.02023A		N/A		VH
A5.02024B		N/A		VH
A5.02025C		N/A		VH
A5.02028F		N/A		VH
A5.02030Z		N/A		VH

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

National Air and Radiation Environmental Laboratory
QC Batch Report

QC Batch #: 0003723J Analytical Procedure: NAREL GR-01

LABORATORY DUPLICATES (PCI/L)

Sample ID	Nuclide	Original ± 2σ	Duplicate ± 2σ	RPD	Z
A5.02013Y	ALPHA	3.43e+03 ± 4.7e+02	3.15e+03 ± 4.6e+02	8.38	-0.69 OK
A5.02013Y	BETA	2.20e+03 ± 1.3e+02	2.32e+03 ± 1.3e+02	5.29	0.65 OK

Analyst: Velinda Herbert 6/1/05
Herbert, Velinda

QA Officer: Linda D McCraw 6/1/05

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES

REPORT OF SAMPLE DELIVERY GROUP #0500026

Project: PCS PHOS SUWANNEE
Analysis Procedure: Gamma Spectrometry
Date Reported: 06/15/2005

SAMPLES

NAREL Sample #	Client Sample ID	Type	Matrix	Date Collected	Date Received
A5.02018D	CRITICAL TW	SAM	WATER-GROUND	04/13/2005	04/19/2005
A5.02029G	SR-A1	SAM	WATER-GROUND	04/14/2005	04/19/2005

EXCEPTIONS

1. Packaging and Shipping - No problems were observed.
2. Documentation - No problems were observed.
3. Sample Preparation - No problems were encountered.
4. Analysis - No problems were encountered.
5. Holding Times - All holding times were met.

QUALITY CONTROL

1. QC samples - All QC analysis results met NAREL acceptance criteria.
2. Instruments - Response and background checks for all instruments used in these analyses met NAREL acceptance criteria.

CERTIFICATION

I certify that this data report complies with the terms and conditions of the Quality Assurance Project Plan, except as noted above. Release of the data contained in this report has been authorized by the Chief of the Monitoring and Analytical Services Branch and the NAREL Quality Assurance Coordinator, or their designees, as verified by the following signatures.

Mary Wisdom 6/29/05
Mary F. Wisdom Date
Quality Assurance Coordinator

John Griggs 6/30/05
John Griggs, Ph.D. Date
Chief, Monitoring and Analytical Services Branch

GENERAL INFORMATION

SAMPLE TYPES

BLD	Blind sample
FBK	Field blank
SAM	Normal sample

ANALYSIS QC TYPES

ANA	Normal analysis
DUP	Laboratory duplicate
LCS	Laboratory control sample (blank spike)
MS	Matrix spike
MSD	Matrix spike duplicate
RBK	Reagent blank

QUALITY INDICATORS

RPD	Relative Percent Difference
%R	Percent Recovery
Z	Number of standard deviations by which a QC measurement differs from the expected value

EVALUATION OF QC ANALYSES

A reagent blank result is considered unacceptable if it is more than 3 standard deviations below zero or more than 3 standard deviations above a predetermined upper control limit. For some analyses NAREL has set the upper control limit at zero. For others the control limit is a small positive number.

NAREL evaluates the results of duplicate and spike analyses using "*Z* scores." A *Z* score is the number of standard deviations by which the QC result differs from its ideal value. The score is considered acceptable if its absolute value is not greater than 3.

The *Z* score for a spiked sample is computed by dividing the difference between the measured value and the target value by the combined standard uncertainty of the difference.

The *Z* score for a duplicate analysis is computed by dividing the difference between the two measured values by the combined standard uncertainty of the difference. When the precision of paired MS/MSD analyses is evaluated, the native sample activity is subtracted from each measured value and the net concentrations are then converted to total activities before the *Z* score is computed.

Each standard uncertainty used to compute a *Z* score includes an additional fixed term to represent sources of measurement error other than counting error. This additional term is not used in the evaluation of reagent blanks.

NAREL reports the "relative percent difference," or RPD, between duplicate results and the "percent recovery," or %R, for spiked analyses, but does not use these values for evaluation.

GENERAL INFORMATION (CONTINUED)

GAMMA ANALYSIS

The reporting format lists the gamma emitters in alphabetical order. The activity and 2-sigma uncertainty for radionuclides measured by gamma spectroscopy are reported only if the nuclide is detected. Nuclides that are not detected do not appear in the report, with the exception of Ba-140, Co-60, Cs-137, I-131, K-40, Ra-226 and Ra-228. If one of these seven nuclides is undetected, NAREL reports it as "Not Detected" or "ND", and provides a sample-specific estimate of the MDC.

Due to potential spectral interferences and other possible problems associated with the determination of the activity of certain radionuclides, the activities for Bi-214, Pb-214, Th-234, Pa-234m, Ra-226, Th-231, and U-235 are subject to greater possible uncertainty than other commonly reported radionuclides. It should be noted that this potential uncertainty is not included in the two-sigma counting uncertainty which is reported with each activity. Although in this report we do provide the calculated activities for these radionuclides, we recommend that the results be used only as a qualitative means of indicating the presence of these radionuclides and not as a quantitative measure of their concentration. The results for these nuclides are not used in the evaluation of quality control samples. Furthermore, because of mutual interference between Ra-226 and U-235, NAREL's gamma analysis software tends to overestimate the amounts of these nuclides whenever both are present in a sample. Lower estimates for Ra-226 activities can be obtained from the reported activities of its decay products, Pb-214 and Bi-214, which are likely to be somewhat less than the Ra-226 activity because of the potential escape of radon gas.

NAREL's gamma spectroscopy software corrects activities and MDCs for decay between collection and analysis, but only up to a limit of ten half-lives. So, if the decay time for a sample is more than ten half-lives of a radionuclide, that nuclide will almost always be undetected and the reported MDC will be meaningless. This is usually a problem only for short-lived radionuclides, such as I-131 and Ba-140, when there is a long delay between collection and analysis.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500026

ANALYSIS SUMMARY

Analysis Procedure: NAREL GAM-01
Title: Gamma Spectrometry

NAREL Sample #	QC Type	Preparation Procedure	Date Completed	Prep Batch #	QC Batch #
A5.02018D		N/A	04/23/2005	0009640T	0003692V
A5.02029G		N/A	04/22/2005	0009640T	0003692V
A5.02029G	DUP	N/A	04/25/2005	0009640T	0003692V

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500026

SAMPLE ANALYSIS REPORT

Sample #:	A5.02018D	QC batch #:	0003692V
Matrix:	WATER-GROUND	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/23/2005 16:50	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		1.8e+01	PCI/L	04/13/2005
Bi214	*	1.74e+02	1.1e+01		PCI/L	04/13/2005
Co60		ND		2.9e+00	PCI/L	04/13/2005
Cs137		ND		3.8e+00	PCI/L	04/13/2005
I131		ND		7.5e+00	PCI/L	04/13/2005
K40		ND		2.4e+01	PCI/L	04/13/2005
Pb210		ND		8.7e+02	PCI/L	04/13/2005
Pb212		3.19e+00	3.2e+00		PCI/L	04/13/2005
Pb214	*	1.93e+02	1.2e+01		PCI/L	04/13/2005
Ra226	*	5.68e+01	4.7e+01		PCI/L	04/13/2005
Ra228		ND		1.7e+01	PCI/L	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

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GAMMA ANALYSES
SDG #0500026

SAMPLE ANALYSIS REPORT

Sample #:	A5.02029G	QC batch #:	0003692V
Matrix:	WATER-GROUND	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/22/2005 16:36	100.0	GE16	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		8.2e+01	PCI/L	04/14/2005
Bi214	*	2.24e+03	1.3e+02		PCI/L	04/14/2005
Co60		ND		1.7e+01	PCI/L	04/14/2005
Cs137		ND		2.1e+01	PCI/L	04/14/2005
I131		ND		2.8e+01	PCI/L	04/14/2005
K40		ND		1.8e+02	PCI/L	04/14/2005
Pb210		ND		3.4e+02	PCI/L	04/14/2005
Pb214	*	2.24e+03	1.3e+02		PCI/L	04/14/2005
Ra224		1.85e+02	2.1e+02		PCI/L	04/14/2005
Ra226		ND		3.5e+02	PCI/L	04/14/2005
Ra228		ND		1.2e+02	PCI/L	04/14/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500026

SAMPLE ANALYSIS REPORT

Sample #:	A5.02029G	QC batch #:	0003692V
Matrix:	WATER-GROUND	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.000e+00 L	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	DUP

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/25/2005 16:04	300.0	GE14	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		3.2e+01	PCI/L	04/14/2005
Bi214	*	9.53e+02	5.5e+01		PCI/L	04/14/2005
Co60		ND		4.5e+00	PCI/L	04/14/2005
Cs137		ND		7.3e+00	PCI/L	04/14/2005
I131		ND		1.4e+01	PCI/L	04/14/2005
K40		ND		4.4e+01	PCI/L	04/14/2005
Pb210		ND		1.6e+03	PCI/L	04/14/2005
Pb214	*	9.99e+02	5.8e+01		PCI/L	04/14/2005
Ra226		ND		1.6e+02	PCI/L	04/14/2005
Ra228		ND		3.4e+01	PCI/L	04/14/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500026

QC BATCH SUMMARY

QC batch #: 0003692V
Preparation procedure: N/A
Analysis procedure: NAREL GAM-01

NAREL Sample #	QC Type	Yield (%)	± 2σ Uncertainty (%)	Analyst
A5.02018D		N/A		DPS
A5.02029G		N/A		DPS
A5.02029G	DUP	N/A		DPS

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

National Air and Radiation Environmental Laboratory
QC Batch Report

C Batch #: 0003692V Analytical Procedure: NAREL GAM-01

LABORATORY DUPLICATES (PCI/L)

ample ID	Nuclide	Original ± 2σ	Duplicate ±	2σ		RPD	Z
5.02029G	BA140						
5.02029G	CO60						
5.02029G	CS137						
5.02029G	I131						
5.02029G	K40						
5.02029G	PB210						
5.02029G	RA226						
5.02029G	RA228						

nalyst: David P. Saunders 6/28/05
Saunders, David P.

QA Officer: Kurt D. McCurdy 6/22/05

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES

REPORT OF SAMPLE DELIVERY GROUP #0500026

Project: PCS PHOS SUWANNEE
Analysis Procedure: Gross Alpha and Beta on Water Samples
Date Reported: 06/20/2005

SAMPLES

NAREL Sample #	Client Sample ID	Type	Matrix	Date Collected	Date Received
A5.02018D	DICAL TW	SAM	WATER-GROUND	04/13/2005	04/19/2005
A5.02029G	SR-A1	SAM	WATER-GROUND	04/14/2005	04/19/2005

EXCEPTIONS

1. Packaging and Shipping - No problems were observed.
2. Documentation - No problems were observed.
3. Sample Preparation - No problems were encountered.
4. Analysis - No problems were encountered.
5. Holding Times - All holding times were met.

QUALITY CONTROL

1. QC samples - All QC analysis results met NAREL acceptance criteria.
2. Instruments - Response and background checks for all instruments used in these analyses met NAREL acceptance criteria.

CERTIFICATION

I certify that this data report complies with the terms and conditions of the Quality Assurance Project Plan, except as noted above. Release of the data contained in this report has been authorized by the Chief of the Monitoring and Analytical Services Branch and the NAREL Quality Assurance Coordinator, or their designees, as verified by the following signatures.

Mary Wisdom 6/29/05
Mary F. Wisdom Date
Quality Assurance Coordinator

John Griggs 6/30/05
John Griggs, Ph.D. Date
Chief, Monitoring and Analytical Services Branch

GENERAL INFORMATION

SAMPLE TYPES

BLD	Blind sample
FBK	Field blank
SAM	Normal sample

ANALYSIS QC TYPES

ANA	Normal analysis
DUP	Laboratory duplicate
LCS	Laboratory control sample (blank spike)
MS	Matrix spike
MSD	Matrix spike duplicate
RBK	Reagent blank

QUALITY INDICATORS

RPD	Relative Percent Difference
%R	Percent Recovery
Z	Number of standard deviations by which a QC measurement differs from the expected value

EVALUATION OF QC ANALYSES

A reagent blank result is considered unacceptable if it is more than 3 standard deviations below zero or more than 3 standard deviations above a predetermined upper control limit. For some analyses NAREL has set the upper control limit at zero. For others the control limit is a small positive number.

NAREL evaluates the results of duplicate and spike analyses using "*Z* scores." A *Z* score is the number of standard deviations by which the QC result differs from its ideal value. The score is considered acceptable if its absolute value is not greater than 3.

The *Z* score for a spiked sample is computed by dividing the difference between the measured value and the target value by the combined standard uncertainty of the difference.

The *Z* score for a duplicate analysis is computed by dividing the difference between the two measured values by the combined standard uncertainty of the difference. When the precision of paired MS/MSD analyses is evaluated, the native sample activity is subtracted from each measured value and the net concentrations are then converted to total activities before the *Z* score is computed.

Each standard uncertainty used to compute a *Z* score includes an additional fixed term to represent sources of measurement error other than counting error. This additional term is not used in the evaluation of reagent blanks.

NAREL reports the "relative percent difference," or RPD, between duplicate results and the "percent recovery," or %R, for spiked analyses, but does not use these values for evaluation.

GENERAL INFORMATION (CONTINUED)

GROSS ALPHA AND BETA ANALYSIS

In comparison to the methods employed to determine radionuclide-specific activities, the method employed by NAREL to determine gross alpha and beta activity in water samples has the potential for greater analytical bias. It should be noted that this potential analytical uncertainty is not included in the two-sigma counting uncertainty term. Therefore, gross alpha and beta results should be used as gross approximations of the alpha and beta activity present.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500026

ANALYSIS SUMMARY

Analysis Procedure: NAREL GR-01
Title: Gross Alpha and Beta on Water Samples

NAREL Sample #	QC Type	Preparation Procedure	Date Completed	Prep Batch #	QC Batch #
A5.02018D		N/A	05/24/2005	0009723V	0003724K
A5.02018D	DUP	N/A	05/24/2005	0009723V	0003724K
A5.02029G		N/A	05/24/2005	0009723V	0003724K

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500026

SAMPLE ANALYSIS REPORT

Sample #:	A5.02018D	QC batch #:	0003724K
Matrix:	WATER-GROUND	Prep batch #:	0009723V
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 15:34	100.0	G54A	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	1.36e+02	4.9e+01	2.6e+01	PCI/L	05/24/2005
Beta	5.59e+01	3.2e+01	4.5e+01	PCI/L	05/24/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500026

SAMPLE ANALYSIS REPORT

Sample #:	A5.02018D	QC batch #:	0003724K
Matrix:	WATER-GROUND	Prep batch #:	0009723V
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.000e+01 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	DUP

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 15:34	100.0	G54B	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	1.48e+02	4.9e+01	3.0e+01	PCI/L	05/24/2005
Beta	5.22e+01	3.1e+01	4.5e+01	PCI/L	05/24/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500026

SAMPLE ANALYSIS REPORT

Sample #:	A5.02029G	QC batch #:	0003724K
Matrix:	WATER-GROUND	Prep batch #:	0009723V
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	2.000e+02 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/24/2005 15:34	100.0	G54D	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	1.02e+01	2.7e+00	1.2e+00	PCI/L	05/24/2005
Beta	1.31e+01	2.2e+00	2.3e+00	PCI/L	05/24/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500026

QC BATCH SUMMARY

QC batch #: 0003724K
Preparation procedure: N/A
Analysis procedure: NAREL GR-01

NAREL Sample #	QC Type	Yield (%)	± 2σ Uncertainty (%)	Analyst
A5.02018D		N/A		VH
A5.02018D	DUP	N/A		VH
A5.02029G		N/A		VH

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

National Air and Radiation Environmental Laboratory
QC Batch Report

QC Batch #: 0003724K Analytical Procedure: NAREL GR-01

LABORATORY DUPLICATES (PCI/L)

Sample ID	Nuclide	Original ± 2σ	Duplicate ± 2σ	RPD	Z
A5.02018D	ALPHA	1.36e+02 ± 4.9e+01	1.48e+02 ± 4.9e+01	8.35	0.33 OK
A5.02018D	BETA	5.59e+01 ± 3.2e+01	5.22e+01 ± 3.1e+01	6.98	-0.17 OK

Analyst: Velinda Herbert 6/1/05
Herbert, Velinda

QA Officer: Linda J. McCurdy 6/1/05

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES

REPORT OF SAMPLE DELIVERY GROUP #0500027

Project: PCS PHOS SUWANNEE
Analysis Procedure: Gamma Spectrometry
Date Reported: 06/15/2005

SAMPLES

NAREL Sample #	Client Sample ID	Type	Matrix	Date Collected	Date Received
A5.02026D	LAB	SAM	WASTE	04/13/2005	04/19/2005

EXCEPTIONS

1. Packaging and Shipping - No problems were observed.
2. Documentation - No problems were observed.
3. Sample Preparation - No problems were encountered.
4. Analysis - No problems were encountered.
5. Holding Times - All holding times were met.

QUALITY CONTROL

1. QC samples - All QC analysis results met NAREL acceptance criteria.
2. Instruments - Response and background checks for all instruments used in these analyses met NAREL acceptance criteria.

CERTIFICATION

I certify that this data report complies with the terms and conditions of the Quality Assurance Project Plan, except as noted above. Release of the data contained in this report has been authorized by the Chief of the Monitoring and Analytical Services Branch and the NAREL Quality Assurance Coordinator, or their designees, as verified by the following signatures.

Mary Wisdom 6/29/05
Mary F. Wisdom Date
Quality Assurance Coordinator

John Griggs 6/30/05
John Griggs, Ph.D. Date
Chief, Monitoring and Analytical Services Branch

GENERAL INFORMATION

SAMPLE TYPES

BLD	Blind sample
FBK	Field blank
SAM	Normal sample

ANALYSIS QC TYPES

ANA	Normal analysis
DUP	Laboratory duplicate
LCS	Laboratory control sample (blank spike)
MS	Matrix spike
MSD	Matrix spike duplicate
RBK	Reagent blank

QUALITY INDICATORS

RPD	Relative Percent Difference
%R	Percent Recovery
Z	Number of standard deviations by which a QC measurement differs from the expected value

EVALUATION OF QC ANALYSES

A reagent blank result is considered unacceptable if it is more than 3 standard deviations below zero or more than 3 standard deviations above a predetermined upper control limit. For some analyses NAREL has set the upper control limit at zero. For others the control limit is a small positive number.

NAREL evaluates the results of duplicate and spike analyses using "*Z* scores." A *Z* score is the number of standard deviations by which the QC result differs from its ideal value. The score is considered acceptable if its absolute value is not greater than 3.

The *Z* score for a spiked sample is computed by dividing the difference between the measured value and the target value by the combined standard uncertainty of the difference.

The *Z* score for a duplicate analysis is computed by dividing the difference between the two measured values by the combined standard uncertainty of the difference. When the precision of paired MS/MSD analyses is evaluated, the native sample activity is subtracted from each measured value and the net concentrations are then converted to total activities before the *Z* score is computed.

Each standard uncertainty used to compute a *Z* score includes an additional fixed term to represent sources of measurement error other than counting error. This additional term is not used in the evaluation of reagent blanks.

NAREL reports the "relative percent difference," or RPD, between duplicate results and the "percent recovery," or %R, for spiked analyses, but does not use these values for evaluation.

GENERAL INFORMATION (CONTINUED)

GAMMA ANALYSIS

The reporting format lists the gamma emitters in alphabetical order. The activity and 2-sigma uncertainty for radionuclides measured by gamma spectroscopy are reported only if the nuclide is detected. Nuclides that are not detected do not appear in the report, with the exception of Ba-140, Co-60, Cs-137, I-131, K-40, Ra-226 and Ra-228. If one of these seven nuclides is undetected, NAREL reports it as "Not Detected" or "ND", and provides a sample-specific estimate of the MDC.

Due to potential spectral interferences and other possible problems associated with the determination of the activity of certain radionuclides, the activities for Bi-214, Pb-214, Th-234, Pa-234m, Ra-226, Th-231, and U-235 are subject to greater possible uncertainty than other commonly reported radionuclides. It should be noted that this potential uncertainty is not included in the two-sigma counting uncertainty which is reported with each activity. Although in this report we do provide the calculated activities for these radionuclides, we recommend that the results be used only as a qualitative means of indicating the presence of these radionuclides and not as a quantitative measure of their concentration. The results for these nuclides are not used in the evaluation of quality control samples. Furthermore, because of mutual interference between Ra-226 and U-235, NAREL's gamma analysis software tends to overestimate the amounts of these nuclides whenever both are present in a sample. Lower estimates for Ra-226 activities can be obtained from the reported activities of its decay products, Pb-214 and Bi-214, which are likely to be somewhat less than the Ra-226 activity because of the potential escape of radon gas.

NAREL's gamma spectroscopy software corrects activities and MDCs for decay between collection and analysis, but only up to a limit of ten half-lives. So, if the decay time for a sample is more than ten half-lives of a radionuclide, that nuclide will almost always be undetected and the reported MDC will be meaningless. This is usually a problem only for short-lived radionuclides, such as I-131 and Ba-140, when there is a long delay between collection and analysis.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500027

ANALYSIS SUMMARY

Analysis Procedure: NAREL GAM-01
Title: Gamma Spectrometry

NAREL Sample #	QC Type	Preparation Procedure	Date Completed	Prep Batch #	QC Batch #
A5.02026D		N/A	04/26/2005	0009640T	0003693W
A5.02026D	DUP	N/A	04/23/2005	0009640T	0003693W

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500027

SAMPLE ANALYSIS REPORT

Sample #:	A5.02026D	QC batch #:	0003693W
Matrix:	WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	2.000e+02 ML	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/25/2005 16:55	1000.0	GE15	DPS

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140	ND		9.3e+01	PCI/L	04/13/2005
Co60	ND		1.6e+01	PCI/L	04/13/2005
Cs137	ND		1.4e+01	PCI/L	04/13/2005
I131	ND		3.8e+01	PCI/L	04/13/2005
K40	9.47e+01	6.4e+01		PCI/L	04/13/2005
Pb210	ND		2.4e+02	PCI/L	04/13/2005
Pb212	2.30e+01	1.7e+01		PCI/L	04/13/2005
Ra226	ND		2.3e+02	PCI/L	04/13/2005
Ra228	ND		9.5e+01	PCI/L	04/13/2005
Tl208	8.96e+00	6.1e+00		PCI/L	04/13/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500027

SAMPLE ANALYSIS REPORT

Sample #:	A5.02026D	QC batch #:	0003693W
Matrix:	WASTE	Prep batch #:	0009640T
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	2.000e+02 ML	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	N/A	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	DUP

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
04/22/2005 16:34	1000.0	GE02	DPS

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140	ND		1.1e+02	PCI/L	04/13/2005
Co60	ND		3.0e+01	PCI/L	04/13/2005
Cs137	ND		2.3e+01	PCI/L	04/13/2005
I131	ND		4.0e+01	PCI/L	04/13/2005
K40	ND		2.3e+02	PCI/L	04/13/2005
Pb210	ND		5.1e+02	PCI/L	04/13/2005
Ra226	ND		2.4e+02	PCI/L	04/13/2005
Ra228	ND		1.7e+02	PCI/L	04/13/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500027

QC BATCH SUMMARY

QC batch #: 0003693W
Preparation procedure: N/A
Analysis procedure: NAREL GAM-01

NAREL Sample #	QC Type	Yield (%)	± 2σ Uncertainty (%)	Analyst
A5.02026D		N/A		DPS
A5.02026D	DUP	N/A		DPS

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

National Air and Radiation Environmental Laboratory
QC Batch Report

QC Batch #: 0003693W Analytical Procedure: NAREL GAM-01

LABORATORY DUPLICATES (PCI/L)

Sample ID	Nuclide	Original ± 2σ	Duplicate ± 2σ	RPD	Z
A5.02026D	BA140				
A5.02026D	CO60				
A5.02026D	CS137				
A5.02026D	I131				
A5.02026D	K40	9.47e+01 ± 6.4e+01			
A5.02026D	PB210				
A5.02026D	RA226				
A5.02026D	RA228				

Analyst: David P. Saunders 6/28/05
Saunders, David P.

QA Officer: Curtis D. McClure 6/22/05

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES

REPORT OF SAMPLE DELIVERY GROUP #0500027

Project: PCS PHOS SUWANNEE
Analysis Procedure: Gross Alpha and Beta on Water Samples
Date Reported: 06/20/2005.

SAMPLES

NAREL Sample #	Client Sample ID	Type	Matrix	Date Collected	Date Received
A5.02026D	LAB	SAM	WASTE	04/13/2005	04/19/2005

EXCEPTIONS

1. Packaging and Shipping - No problems were observed.
2. Documentation - No problems were observed.
3. Sample Preparation - No problems were encountered.
4. Analysis - No problems were encountered.
5. Holding Times - All holding times were met.

QUALITY CONTROL

1. QC samples - All QC analysis results met NAREL acceptance criteria.
2. Instruments - Response and background checks for all instruments used in these analyses met NAREL acceptance criteria.

CERTIFICATION

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Mary Wisdom 6/29/05
Mary F. Wisdom Date
Quality Assurance Coordinator

John Griggs 6/30/05
John Griggs, Ph.D. Date
Chief, Monitoring and Analytical Services Branch

GENERAL INFORMATION

SAMPLE TYPES

BLD	Blind sample
FBK	Field blank
SAM	Normal sample

ANALYSIS QC TYPES

ANA	Normal analysis
DUP	Laboratory duplicate
LCS	Laboratory control sample (blank spike)
MS	Matrix spike
MSD	Matrix spike duplicate
RBK	Reagent blank

QUALITY INDICATORS

RPD	Relative Percent Difference
%R	Percent Recovery
Z	Number of standard deviations by which a QC measurement differs from the expected value

EVALUATION OF QC ANALYSES

A reagent blank result is considered unacceptable if it is more than 3 standard deviations below zero or more than 3 standard deviations above a predetermined upper control limit. For some analyses NAREL has set the upper control limit at zero. For others the control limit is a small positive number.

NAREL evaluates the results of duplicate and spike analyses using "*Z* scores." A *Z* score is the number of standard deviations by which the QC result differs from its ideal value. The score is considered acceptable if its absolute value is not greater than 3.

The *Z* score for a spiked sample is computed by dividing the difference between the measured value and the target value by the combined standard uncertainty of the difference.

The *Z* score for a duplicate analysis is computed by dividing the difference between the two measured values by the combined standard uncertainty of the difference. When the precision of paired MS/MSD analyses is evaluated, the native sample activity is subtracted from each measured value and the net concentrations are then converted to total activities before the *Z* score is computed.

Each standard uncertainty used to compute a *Z* score includes an additional fixed term to represent sources of measurement error other than counting error. This additional term is not used in the evaluation of reagent blanks.

NAREL reports the "relative percent difference," or RPD, between duplicate results and the "percent recovery," or %R, for spiked analyses, but does not use these values for evaluation.

GENERAL INFORMATION (CONTINUED)

GROSS ALPHA AND BETA ANALYSIS

In comparison to the methods employed to determine radionuclide-specific activities, the method employed by NAREL to determine gross alpha and beta activity in water samples has the potential for greater analytical bias. It should be noted that this potential analytical uncertainty is not included in the two-sigma counting uncertainty term. Therefore, gross alpha and beta results should be used as gross approximations of the alpha and beta activity present.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500027

ANALYSIS SUMMARY

Analysis Procedure: NAREL GR-01
Title: Gross Alpha and Beta on Water Samples

NAREL Sample #	QC Type	Preparation Procedure	Date Completed	Prep Batch #	QC Batch #
A5.02026D		N/A	05/25/2005	0009726Y	0003725L
A5.02026D	DUP	N/A	05/25/2005	0009726Y	0003725L

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500027

SAMPLE ANALYSIS REPORT

Sample #:	A5.02026D	QC batch #:	0003725L
Matrix:	WASTE	Prep batch #:	0009726Y
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	5.000e+00 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/25/2005 11:40	100.0	G54A	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	-2.32e+00	1.2e+02	9.7e+01	PCI/L	05/25/2005
Beta	1.85e+01	5.6e+01	8.5e+01	PCI/L	05/25/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500027

SAMPLE ANALYSIS REPORT

Sample #:	A5.02026D	QC batch #:	0003725L
Matrix:	WASTE	Prep batch #:	0009726Y
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	5.000e+00 ML	Analysis procedure:	NAREL GR-01
Dry/wet weight:	N/A	Analyst:	VH
Ash/dry weight:	N/A	QC type:	DUP

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/25/2005 11:40	100.0	G54B	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	2.88e+01	1.2e+02	9.5e+01	PCI/L	05/25/2005
Beta	-4.29e+00	5.5e+01	8.8e+01	PCI/L	05/25/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500027

QC BATCH SUMMARY

QC batch #: 0003725L
Preparation procedure: N/A
Analysis procedure: NAREL GR-01

NAREL Sample #	QC Type	Yield (%)	± 2σ Uncertainty (%)	Analyst
A5.02026D		N/A		VH
A5.02026D	DUP	N/A		VH

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

National Air and Radiation Environmental Laboratory
QC Batch Report

QC Batch #: 0003725L Analytical Procedure: NAREL GR-01

LABORATORY DUPLICATES (PCI/L)

Sample ID	Nuclide	Original ± 2σ	Duplicate ± 2σ	RPD	Z
A5.02026D	ALPHA	-2.32e+00 ± 1.2e+02	2.88e+01 ± 1.2e+02	235.08	0.36 OK
A5.02026D	BETA	1.85e+01 ± 5.6e+01	-4.29e+00 ± 5.5e+01	320.78	-0.58 OK

Analyst: Velinda Herbert 6/1/05
Herbert, Velinda

QA Officer: Kirk D. McLean 6/1/05

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES

REPORT OF SAMPLE DELIVERY GROUP #0500028

Project: PCS PHOS SUWANNEE
Analysis Procedure: Gamma Spectrometry
Date Reported: 06/15/2005

SAMPLES

NAREL Sample #	Client Sample ID	Type	Matrix	Date Collected	Date Received
A5.02017C	DEMIN SED	SAM	SEDIMENT	04/14/2005	04/19/2005
A5.02027E	LAB SED	SAM	SEDIMENT	04/13/2005	04/19/2005

EXCEPTIONS

1. Packaging and Shipping - No problems were observed.
2. Documentation - No problems were observed.
3. Sample Preparation - No problems were encountered.
4. Analysis - No problems were encountered.
5. Holding Times - All holding times were met.

QUALITY CONTROL

1. QC samples - All QC analysis results met NAREL acceptance criteria.
2. Instruments - Response and background checks for all instruments used in these analyses met NAREL acceptance criteria.

CERTIFICATION

I certify that this data report complies with the terms and conditions of the Quality Assurance Project Plan, except as noted above. Release of the data contained in this report has been authorized by the Chief of the Monitoring and Analytical Services Branch and the NAREL Quality Assurance Coordinator, or their designees, as verified by the following signatures.

Mary Wisdom 6/29/05
Mary F. Wisdom Date
Quality Assurance Coordinator

John Griggs 6/30/05
John Griggs, Ph.D. Date
Chief, Monitoring and Analytical Services Branch

GENERAL INFORMATION

SAMPLE TYPES

BLD	Blind sample
FBK	Field blank
SAM	Normal sample

ANALYSIS QC TYPES

ANA	Normal analysis
DUP	Laboratory duplicate
LCS	Laboratory control sample (blank spike)
MS	Matrix spike
MSD	Matrix spike duplicate
RBK	Reagent blank

QUALITY INDICATORS

RPD	Relative Percent Difference
%R	Percent Recovery
Z	Number of standard deviations by which a QC measurement differs from the expected value

EVALUATION OF QC ANALYSES

A reagent blank result is considered unacceptable if it is more than 3 standard deviations below zero or more than 3 standard deviations above a predetermined upper control limit. For some analyses NAREL has set the upper control limit at zero. For others the control limit is a small positive number.

NAREL evaluates the results of duplicate and spike analyses using "*Z* scores." A *Z* score is the number of standard deviations by which the QC result differs from its ideal value. The score is considered acceptable if its absolute value is not greater than 3.

The *Z* score for a spiked sample is computed by dividing the difference between the measured value and the target value by the combined standard uncertainty of the difference.

The *Z* score for a duplicate analysis is computed by dividing the difference between the two measured values by the combined standard uncertainty of the difference. When the precision of paired MS/MSD analyses is evaluated, the native sample activity is subtracted from each measured value and the net concentrations are then converted to total activities before the *Z* score is computed.

Each standard uncertainty used to compute a *Z* score includes an additional fixed term to represent sources of measurement error other than counting error. This additional term is not used in the evaluation of reagent blanks.

NAREL reports the "relative percent difference," or RPD, between duplicate results and the "percent recovery," or %R, for spiked analyses, but does not use these values for evaluation.

GENERAL INFORMATION (CONTINUED)

GAMMA ANALYSIS

The reporting format lists the gamma emitters in alphabetical order. The activity and 2-sigma uncertainty for radionuclides measured by gamma spectroscopy are reported only if the nuclide is detected. Nuclides that are not detected do not appear in the report, with the exception of Ba-140, Co-60, Cs-137, I-131, K-40, Ra-226 and Ra-228. If one of these seven nuclides is undetected, NAREL reports it as "Not Detected" or "ND", and provides a sample-specific estimate of the MDC.

Due to potential spectral interferences and other possible problems associated with the determination of the activity of certain radionuclides, the activities for Bi-214, Pb-214, Th-234, Pa-234m, Ra-226, Th-231, and U-235 are subject to greater possible uncertainty than other commonly reported radionuclides. It should be noted that this potential uncertainty is not included in the two-sigma counting uncertainty which is reported with each activity. Although in this report we do provide the calculated activities for these radionuclides, we recommend that the results be used only as a qualitative means of indicating the presence of these radionuclides and not as a quantitative measure of their concentration. The results for these nuclides are not used in the evaluation of quality control samples. Furthermore, because of mutual interference between Ra-226 and U-235, NAREL's gamma analysis software tends to overestimate the amounts of these nuclides whenever both are present in a sample. Lower estimates for Ra-226 activities can be obtained from the reported activities of its decay products, Pb-214 and Bi-214, which are likely to be somewhat less than the Ra-226 activity because of the potential escape of radon gas.

NAREL's gamma spectroscopy software corrects activities and MDCs for decay between collection and analysis, but only up to a limit of ten half-lives. So, if the decay time for a sample is more than ten half-lives of a radionuclide, that nuclide will almost always be undetected and the reported MDC will be meaningless. This is usually a problem only for short-lived radionuclides, such as I-131 and Ba-140, when there is a long delay between collection and analysis.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500028

ANALYSIS SUMMARY

Analysis Procedure: NAREL GAM-01
Title: Gamma Spectrometry

NAREL Sample #	QC Type	Preparation Procedure	Date Completed	Prep Batch #	QC Batch #
A5.02017C		N/A	05/06/2005	0009428Q	0003754R
A5.02027E		N/A	05/06/2005	0009428Q	0003754R
A5.02027E	DUP	N/A	05/07/2005	0009428Q	0003754R

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500028

SAMPLE ANALYSIS REPORT

Sample #:	A5.02017C	QC batch #:	0003754R
Matrix:	SEDIMENT	Prep batch #:	0009428Q
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	3.030e+02 GDRY	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	79.06 %	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/05/2005 15:17	1000.0	GE04	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		2.2e-01	PCI/GDRY	04/14/2005
Bi212		3.65e-01	1.4e-01		PCI/GDRY	04/14/2005
Bi214	*	1.89e+00	1.1e-01		PCI/GDRY	04/14/2005
Co60		ND		2.3e-02	PCI/GDRY	04/14/2005
Cs137		ND		2.5e-02	PCI/GDRY	04/14/2005
I131		ND		1.1e-01	PCI/GDRY	04/14/2005
K40		5.32e+00	3.6e-01		PCI/GDRY	04/14/2005
Pb210		ND		4.0e+00	PCI/GDRY	04/14/2005
Pb212		2.54e-01	2.5e-02		PCI/GDRY	04/14/2005
Pb214	*	2.10e+00	1.2e-01		PCI/GDRY	04/14/2005
Ra223		1.88e-01	5.8e-02		PCI/GDRY	04/14/2005
Ra224		2.51e-01	2.4e-01		PCI/GDRY	04/14/2005
Ra226	*	3.98e+00	3.3e-01		PCI/GDRY	04/14/2005
Ra228		2.51e-01	3.8e-02		PCI/GDRY	04/14/2005
Th227		8.13e-02	4.8e-02		PCI/GDRY	04/14/2005
Th234	*	1.60e+00	2.2e-01		PCI/GDRY	04/14/2005
Tl208		6.30e-02	1.1e-02		PCI/GDRY	04/14/2005
U235	*	2.46e-01	2.0e-02		PCI/GDRY	04/14/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500028

SAMPLE ANALYSIS REPORT

Sample #:	A5.02027E	QC batch #:	0003754R
Matrix:	SEDIMENT	Prep batch #:	0009428Q
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	2.910e+02 GDRY	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	82.12 %	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/05/2005 15:22	1000.0	GE12	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		3.4e-01	PCI/GDRY	04/13/2005
Bi212		4.33e-01	1.8e-01		PCI/GDRY	04/13/2005
Bi214	*	6.78e+00	3.9e-01		PCI/GDRY	04/13/2005
Co60		ND		3.4e-02	PCI/GDRY	04/13/2005
Cs137		ND		4.1e-02	PCI/GDRY	04/13/2005
I131		ND		1.9e-01	PCI/GDRY	04/13/2005
K40		1.97e+00	2.2e-01		PCI/GDRY	04/13/2005
Pb210		ND		4.9e+00	PCI/GDRY	04/13/2005
Pb212		4.29e-01	4.2e-02		PCI/GDRY	04/13/2005
Pb214	*	7.52e+00	4.3e-01		PCI/GDRY	04/13/2005
Ra223		4.08e-01	1.1e-01		PCI/GDRY	04/13/2005
Ra224		5.81e-01	4.1e-01		PCI/GDRY	04/13/2005
Ra226	*	7.85e+00	6.3e-01		PCI/GDRY	04/13/2005
Ra228		4.26e-01	5.4e-02		PCI/GDRY	04/13/2005
Rn219		4.87e-01	1.3e-01		PCI/GDRY	04/13/2005
Th227		2.21e-01	7.3e-02		PCI/GDRY	04/13/2005
Th234	*	4.99e+00	4.4e-01		PCI/GDRY	04/13/2005
Tl208		1.37e-01	1.9e-02		PCI/GDRY	04/13/2005
U235	*	4.06e-01	3.6e-02		PCI/GDRY	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500028

SAMPLE ANALYSIS REPORT

Sample #:	A5.02027E	QC batch #:	0003754R
Matrix:	SEDIMENT	Prep batch #:	0009428Q
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	2.910e+02 GDRY	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	82.12 %	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	DUP

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/06/2005 17:51	1000.0	GE16	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		2.6e-01	PCI/GDRY	04/13/2005
Be7		1.46e-01	1.0e-01		PCI/GDRY	04/13/2005
Bi212		3.09e-01	1.3e-01		PCI/GDRY	04/13/2005
Bi214	*	6.81e+00	3.9e-01		PCI/GDRY	04/13/2005
Co60		ND		2.4e-02	PCI/GDRY	04/13/2005
Cs137		ND		2.9e-02	PCI/GDRY	04/13/2005
I131		ND		1.4e-01	PCI/GDRY	04/13/2005
K40		2.03e+00	1.8e-01		PCI/GDRY	04/13/2005
Pa231		1.95e-01	1.8e-01		PCI/GDRY	04/13/2005
Pb210	*	8.40e+00	6.4e-01		PCI/GDRY	04/13/2005
Pb212		4.30e-01	3.5e-02		PCI/GDRY	04/13/2005
Pb214	*	7.58e+00	4.3e-01		PCI/GDRY	04/13/2005
Ra224		4.65e-01	3.4e-01		PCI/GDRY	04/13/2005
Ra226	*	1.05e+01	7.0e-01		PCI/GDRY	04/13/2005
Ra228		4.11e-01	3.9e-02		PCI/GDRY	04/13/2005
Rn219		4.17e-01	1.1e-01		PCI/GDRY	04/13/2005
Th227		3.27e-01	6.9e-02		PCI/GDRY	04/13/2005
Th234	*	5.43e+00	3.4e-01		PCI/GDRY	04/13/2005
Tl208		1.39e-01	1.4e-02		PCI/GDRY	04/13/2005
U235	*	2.70e-01	2.7e-02		PCI/GDRY	04/13/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500028

QC BATCH SUMMARY

QC batch #: 0003754R
Preparation procedure: N/A
Analysis procedure: NAREL GAM-01

NAREL Sample #	QC Type	Yield (%)	± 2σ Uncertainty (%)	Analyst
A5.02017C		N/A		DPS
A5.02027E		N/A		DPS
A5.02027E	DUP	N/A		DPS

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

National Air and Radiation Environmental Laboratory
QC Batch Report

Batch #: 0003754R Analytical Procedure: NAREL GAM-01

LABORATORY DUPLICATES (PCI/GDRY)

mple ID	Nuclide	Original ± 2σ	Duplicate ± 2σ	RPD	Z
.02027E	BA140				
.02027E	BI212	4.33e-01 ± 1.8e-01	3.09e-01 ± 1.3e-01	33.42	-1.09 OK
.02027E	CO60				
.02027E	CS137				
.02027E	I131				
.02027E	K40	1.97e+00 ± 2.2e-01	2.03e+00 ± 1.8e-01	3.00	0.30 OK
.02027E	PB212	4.29e-01 ± 4.2e-02	4.30e-01 ± 3.5e-02	0.23	0.02 OK
.02027E	RA224	5.81e-01 ± 4.1e-01	4.65e-01 ± 3.4e-01	22.18	-0.44 OK
.02027E	RA228	4.26e-01 ± 5.4e-02	4.11e-01 ± 3.9e-02	3.58	-0.34 OK
.02027E	RN219	4.87e-01 ± 1.3e-01	4.17e-01 ± 1.1e-01	15.49	-0.78 OK
.02027E	TH227	2.21e-01 ± 7.3e-02	3.27e-01 ± 6.9e-02	38.69	1.97 OK
.02027E	TL208	1.37e-01 ± 1.9e-02	1.39e-01 ± 1.4e-02	1.45	0.13 OK

alyst: David P. Saunders 6/28/05
Saunders, David P.

A Officer: Kurt D. McKown 6/22/05

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES

REPORT OF SAMPLE DELIVERY GROUP #0500028

Project: PCS PHOS SUWANNEE
Analysis Procedure: Gross Alpha and Beta on Solid Samples
Date Reported: 06/28/2005

SAMPLES

NAREL Sample #	Client Sample ID	Type	Matrix	Date Collected	Date Received
A5.02017C	DEMIN SED	SAM	SEDIMENT	04/14/2005	04/19/2005
A5.02027E	LAB SED	SAM	SEDIMENT	04/13/2005	04/19/2005

EXCEPTIONS

1. Packaging and Shipping - No problems were observed.
2. Documentation - No problems were observed.
3. Sample Preparation - No problems were encountered.
4. Analysis - No problems were encountered.
5. Holding Times - All holding times were met.

QUALITY CONTROL

1. QC samples - All QC analysis results met NAREL acceptance criteria.
2. Instruments - Response and background checks for all instruments used in these analyses met NAREL acceptance criteria.

CERTIFICATION

I certify that this data report complies with the terms and conditions of the Quality Assurance Project Plan, except as noted above. Release of the data contained in this report has been authorized by the Chief of the Monitoring and Analytical Services Branch and the NAREL Quality Assurance Coordinator, or their designees, as verified by the following signatures.

Mary Wisdom 6/30/05
Mary F. Wisdom Date
Quality Assurance Coordinator

John Griggs 6/30/05
John Griggs, Ph.D. Date
Chief, Monitoring and Analytical Services Branch

GENERAL INFORMATION

SAMPLE TYPES

BLD	Blind sample
FBK	Field blank
SAM	Normal sample

ANALYSIS QC TYPES

ANA	Normal analysis
DUP	Laboratory duplicate
LCS	Laboratory control sample (blank spike)
MS	Matrix spike
MSD	Matrix spike duplicate
RBK	Reagent blank

QUALITY INDICATORS

RPD	Relative Percent Difference
%R	Percent Recovery
Z	Number of standard deviations by which a QC measurement differs from the expected value

EVALUATION OF QC ANALYSES

A reagent blank result is considered unacceptable if it is more than 3 standard deviations below zero or more than 3 standard deviations above a predetermined upper control limit. For some analyses NAREL has set the upper control limit at zero. For others the control limit is a small positive number.

NAREL evaluates the results of duplicate and spike analyses using "*Z* scores." A *Z* score is the number of standard deviations by which the QC result differs from its ideal value. The score is considered acceptable if its absolute value is not greater than 3.

The *Z* score for a spiked sample is computed by dividing the difference between the measured value and the target value by the combined standard uncertainty of the difference.

The *Z* score for a duplicate analysis is computed by dividing the difference between the two measured values by the combined standard uncertainty of the difference. When the precision of paired MS/MSD analyses is evaluated, the native sample activity is subtracted from each measured value and the net concentrations are then converted to total activities before the *Z* score is computed.

Each standard uncertainty used to compute a *Z* score includes an additional fixed term to represent sources of measurement error other than counting error. This additional term is not used in the evaluation of reagent blanks.

NAREL reports the "relative percent difference," or RPD, between duplicate results and the "percent recovery," or %R, for spiked analyses, but does not use these values for evaluation.

GENERAL INFORMATION (CONTINUED)

GROSS ALPHA AND BETA ANALYSIS

In comparison to the methods employed to determine radionuclide-specific activities, the method employed by NAREL to determine gross alpha and beta activity has the potential for greater analytical bias. This is especially true for solid samples. It should be noted that this potential analytical uncertainty is not included in the two-sigma counting uncertainty term. Therefore, gross alpha and beta results should be used as gross approximations of the alpha and beta activity present.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500028

ANALYSIS SUMMARY

Analysis Procedure: NAREL GR-03
Title: Gross Alpha and Beta on Solid Samples

NAREL Sample #	QC Type	Preparation Procedure	Date Completed	Prep Batch #	QC Batch #
A5.02017C		N/A	06/24/2005	0009803U	0003766W
A5.02027E		N/A	06/24/2005	0009803U	0003766W
A5.02035E *		N/A	06/24/2005	0009803U	0003766W
A5.02042D *		N/A	06/24/2005	0009803U	0003766W
A5.02048K *		N/A	06/24/2005	0009803U	0003766W
A5.02051E *		N/A	06/24/2005	0009803U	0003766W
A5.02054H *		N/A	06/24/2005	0009803U	0003766W
A5.02057L *		N/A	06/24/2005	0009803U	0003766W
A5.02060F *		N/A	06/24/2005	0009803U	0003766W
A5.02060F *	DUP	N/A	06/24/2005	0009803U	0003766W
A5.02062H *		N/A	06/24/2005	0009803U	0003766W
A5.02064K *		N/A	06/24/2005	0009803U	0003766W
A5.02448Y *		N/A	06/25/2005	0009803U	0003766W
A5.02449Z *		N/A	06/25/2005	0009803U	0003766W
A5.02450R *		N/A	06/25/2005	0009803U	0003766W
A5.02451T *		N/A	06/25/2005	0009803U	0003766W
A5.02452U *		N/A	06/25/2005	0009803U	0003766W
A5.02453V *		N/A	06/25/2005	0009803U	0003766W

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500028

SAMPLE ANALYSIS REPORT

Sample #:	A5.02017C	QC batch #:	0003766W
Matrix:	SEDIMENT	Prep batch #:	0009803U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	9.900e-02 GDRY	Analysis procedure:	NAREL GR-03
Dry/wet weight:	79.06 %	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/24/2005 16:29	100.0	G54A	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	8.73e+00	1.3e+01	1.0e+01	PCI/GDRY	06/24/2005
Beta	1.34e+01	4.3e+00	5.2e+00	PCI/GDRY	06/24/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500028

SAMPLE ANALYSIS REPORT

Sample #:	A5.02027E	QC batch #:	0003766W
Matrix:	SEDIMENT	Prep batch #:	0009803U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.004e-01 GDRY	Analysis procedure:	NAREL GR-03
Dry/wet weight:	82.12 %	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/24/2005 16:29	100.0	G54B	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	3.26e+01	1.6e+01	1.0e+01	PCI/GDRY	06/24/2005
Beta	3.37e+01	5.4e+00	5.4e+00	PCI/GDRY	06/24/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500028

SAMPLE ANALYSIS REPORT

Sample #:	A5.02060F	QC batch #:	0003766W
Matrix:	SEDIMENT	Prep batch #:	0009803U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.008e-01 GDRY	Analysis procedure:	NAREL GR-03
Dry/wet weight:	58.38 %	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

Note: This sample is not in SDG #0500028

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/24/2005 19:50	100.0	G54D	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	2.54e+01	1.5e+01	1.0e+01	PCI/GDRY	06/24/2005
Beta	9.07e+00	3.9e+00	5.2e+00	PCI/GDRY	06/24/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500028

SAMPLE ANALYSIS REPORT

Sample #:	A5.02060F	QC batch #:	0003766W
Matrix:	SEDIMENT	Prep batch #:	0009803U
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.015e-01 GDRY	Analysis procedure:	NAREL GR-03
Dry/wet weight:	58.38 %	Analyst:	VH
Ash/dry weight:	N/A	QC type:	DUP

Note: This sample is not in SDG #0500028

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/24/2005 21:30	100.0	G54A	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	1.51e+01	1.4e+01	1.0e+01	PCI/GDRY	06/24/2005
Beta	1.40e+01	4.3e+00	5.2e+00	PCI/GDRY	06/24/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500028

QC BATCH SUMMARY

QC batch #: 0003766W
Preparation procedure: N/A
Analysis procedure: NAREL GR-03

NAREL Sample #	QC Type	Yield (%)	± 2σ Uncertainty (%)	Analyst
A5.02017C		N/A		VH
A5.02027E		N/A		VH
A5.02035E *		N/A		VH
A5.02042D *		N/A		VH
A5.02048K *		N/A		VH
A5.02051E *		N/A		VH
A5.02054H *		N/A		VH
A5.02057L *		N/A		VH
A5.02060F *		N/A		VH
A5.02060F *	DUP	N/A		VH
A5.02062H *		N/A		VH
A5.02064K *		N/A		VH
A5.02448Y *		N/A		VH
A5.02449Z *		N/A		VH
A5.02450R *		N/A		VH
A5.02451T *		N/A		VH
A5.02452U *		N/A		VH
A5.02453V *		N/A		VH

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

National Air and Radiation Environmental Laboratory
QC Batch Report

Batch #: 0003766W Analytical Procedure: NAREL GR-03

LABORATORY DUPLICATES (PCI/GDRY)

mple ID	Nuclide	Original ± 2σ	Duplicate ± 2σ	RPD	Z
.02060F	ALPHA	2.54e+01 ± 1.5e+01	1.51e+01 ± 1.4e+01	50.78	-0.98 OK
.02060F	BETA	9.07e+00 ± 3.9e+00	1.40e+01 ± 4.3e+00	42.54	1.63 OK

alyst: Velinda Herbert 6/27/05
Herbert, Velinda

. Officer: Linda J. McClure 6/27/05

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES

REPORT OF SAMPLE DELIVERY GROUP #0500029

Project: PCS PHOS SUWANNEE
Analysis Procedure: Gamma Spectrometry
Date Reported: 06/15/2005

SAMPLES

NAREL Sample #	Client Sample ID	Type	Matrix	Date Collected	Date Received
A5.02019E	DICAL SB	SAM	SOIL	04/12/2005	04/19/2005

EXCEPTIONS

1. Packaging and Shipping - No problems were observed.
2. Documentation - No problems were observed.
3. Sample Preparation - No problems were encountered.
4. Analysis - No problems were encountered.
5. Holding Times - All holding times were met.

QUALITY CONTROL

1. QC samples - All QC analysis results met NAREL acceptance criteria.
2. Yields - All chemical yields were within acceptance limits.
3. Instruments - Response and background checks for all instruments used in these analyses met NAREL acceptance criteria.

CERTIFICATION

I certify that this data report complies with the terms and conditions of the Quality Assurance Project Plan, except as noted above. Release of the data contained in this report has been authorized by the Chief of the Monitoring and Analytical Services Branch and the NAREL Quality Assurance Coordinator, or their designees, as verified by the following signatures.

Mary Wisdom 6/24/05
Mary F. Wisdom Date
Quality Assurance Coordinator

John Griggs 6/30/05
John Griggs, Ph.D. Date
Chief, Monitoring and Analytical Services Branch

GENERAL INFORMATION

SAMPLE TYPES

BLD	Blind sample
FBK	Field blank
SAM	Normal sample

ANALYSIS QC TYPES

ANA	Normal analysis
DUP	Laboratory duplicate
LCS	Laboratory control sample (blank spike)
MS	Matrix spike
MSD	Matrix spike duplicate
RBK	Reagent blank

QUALITY INDICATORS

RPD	Relative Percent Difference
%R	Percent Recovery
Z	Number of standard deviations by which a QC measurement differs from the expected value

EVALUATION OF QC ANALYSES

A reagent blank result is considered unacceptable if it is more than 3 standard deviations below zero or more than 3 standard deviations above a predetermined upper control limit. For some analyses NAREL has set the upper control limit at zero. For others the control limit is a small positive number.

NAREL evaluates the results of duplicate and spike analyses using "*Z* scores." A *Z* score is the number of standard deviations by which the QC result differs from its ideal value. The score is considered acceptable if its absolute value is not greater than 3.

The *Z* score for a spiked sample is computed by dividing the difference between the measured value and the target value by the combined standard uncertainty of the difference.

The *Z* score for a duplicate analysis is computed by dividing the difference between the two measured values by the combined standard uncertainty of the difference. When the precision of paired MS/MSD analyses is evaluated, the native sample activity is subtracted from each measured value and the net concentrations are then converted to total activities before the *Z* score is computed.

Each standard uncertainty used to compute a *Z* score includes an additional fixed term to represent sources of measurement error other than counting error. This additional term is not used in the evaluation of reagent blanks.

NAREL reports the "relative percent difference," or RPD, between duplicate results and the "percent recovery," or %R, for spiked analyses, but does not use these values for evaluation.

GENERAL INFORMATION (CONTINUED)

GAMMA ANALYSIS

The reporting format lists the gamma emitters in alphabetical order. The activity and 2-sigma uncertainty for radionuclides measured by gamma spectroscopy are reported only if the nuclide is detected. Nuclides that are not detected do not appear in the report, with the exception of Ba-140, Co-60, Cs-137, I-131, K-40, Ra-226 and Ra-228. If one of these seven nuclides is undetected, NAREL reports it as "Not Detected" or "ND", and provides a sample-specific estimate of the MDC.

Due to potential spectral interferences and other possible problems associated with the determination of the activity of certain radionuclides, the activities for Bi-214, Pb-214, Th-234, Pa-234m, Ra-226, Th-231, and U-235 are subject to greater possible uncertainty than other commonly reported radionuclides. It should be noted that this potential uncertainty is not included in the two-sigma counting uncertainty which is reported with each activity. Although in this report we do provide the calculated activities for these radionuclides, we recommend that the results be used only as a qualitative means of indicating the presence of these radionuclides and not as a quantitative measure of their concentration. The results for these nuclides are not used in the evaluation of quality control samples. Furthermore, because of mutual interference between Ra-226 and U-235, NAREL's gamma analysis software tends to overestimate the amounts of these nuclides whenever both are present in a sample. Lower estimates for Ra-226 activities can be obtained from the reported activities of its decay products, Pb-214 and Bi-214, which are likely to be somewhat less than the Ra-226 activity because of the potential escape of radon gas.

NAREL's gamma spectroscopy software corrects activities and MDCs for decay between collection and analysis, but only up to a limit of ten half-lives. So, if the decay time for a sample is more than ten half-lives of a radionuclide, that nuclide will almost always be undetected and the reported MDC will be meaningless. This is usually a problem only for short-lived radionuclides, such as I-131 and Ba-140, when there is a long delay between collection and analysis.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500029

ANALYSIS SUMMARY

Analysis Procedure: NAREL GAM-01
Title: Gamma Spectrometry

NAREL Sample #	QC Type	Preparation Procedure	Date Completed	Prep Batch #	QC Batch #
A5.02019E		N/A	05/07/2005	0009428Q	0003756U
A5.02019E	DUP	N/A	05/10/2005	0009428Q	0003756U

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500029

SAMPLE ANALYSIS REPORT

Sample #:	A5.02019E	QC batch #:	0003756U
Matrix:	SOIL	Prep batch #:	0009428Q
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.460e+02 GDRY	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	82.53 %	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/06/2005 17:48	1000.0	GE02	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		4.1e-01	PCI/GDRY	04/12/2005
Bi212		4.14e-01	2.5e-01		PCI/GDRY	04/12/2005
Bi214	*	9.90e-01	8.4e-02		PCI/GDRY	04/12/2005
Co60		ND		4.4e-02	PCI/GDRY	04/12/2005
Cs137		ND		4.3e-02	PCI/GDRY	04/12/2005
I131		ND		2.1e-01	PCI/GDRY	04/12/2005
K40		8.03e-01	3.2e-01		PCI/GDRY	04/12/2005
Pa231		5.57e-01	3.3e-01		PCI/GDRY	04/12/2005
Pa234m	*	9.20e+00	2.1e+00		PCI/GDRY	04/12/2005
Pb210		ND		2.0e+00	PCI/GDRY	04/12/2005
Pb212		3.71e-01	4.1e-02		PCI/GDRY	04/12/2005
Pb214	*	1.04e+00	7.7e-02		PCI/GDRY	04/12/2005
Ra223		3.92e-01	8.4e-02		PCI/GDRY	04/12/2005
Ra224		3.56e-01	4.8e-01		PCI/GDRY	04/12/2005
Ra226		ND		4.7e-01	PCI/GDRY	04/12/2005
Ra228		4.26e-01	6.1e-02		PCI/GDRY	04/12/2005
Rn219		2.05e-01	9.5e-02		PCI/GDRY	04/12/2005
Th227		2.46e-01	6.9e-02		PCI/GDRY	04/12/2005
Th234	*	8.90e+00	6.1e-01		PCI/GDRY	04/12/2005
Tl208		1.27e-01	2.6e-02		PCI/GDRY	04/12/2005
U235	*	4.98e-01	3.8e-02		PCI/GDRY	04/12/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500029

SAMPLE ANALYSIS REPORT

Sample #:	A5.02019E	QC batch #:	0003756U
Matrix:	SOIL	Prep batch #:	0009428Q
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.460e+02 GDRY	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	82.53 %	Analyst:	DPS
Ash/dry weight:	N/A	QC type:	DUP

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
05/10/2005 11:12	500.0	GE13	DPS

ANALYTICAL RESULTS

Analyte		Activity	± 2σ Uncertainty	MDC	Unit	Date
Ba140		ND		4.3e-01	PCI/GDRY	04/12/2005
Bi212		2.59e-01	2.2e-01		PCI/GDRY	04/12/2005
Bi214	*	9.40e-01	7.3e-02		PCI/GDRY	04/12/2005
Co60		ND		3.0e-02	PCI/GDRY	04/12/2005
Cs137		4.94e-02	1.4e-02		PCI/GDRY	04/12/2005
I131		ND		3.0e-01	PCI/GDRY	04/12/2005
K40		1.01e+00	2.3e-01		PCI/GDRY	04/12/2005
Pa231		1.02e+00	3.3e-01		PCI/GDRY	04/12/2005
Pa234m	*	9.99e+00	2.0e+00		PCI/GDRY	04/12/2005
Pb210		ND		3.7e+00	PCI/GDRY	04/12/2005
Pb212		4.00e-01	4.4e-02		PCI/GDRY	04/12/2005
Pb214	*	1.13e+00	7.9e-02		PCI/GDRY	04/12/2005
Ra223		3.75e-01	8.5e-02		PCI/GDRY	04/12/2005
Ra226	*	1.76e+00	5.1e-01		PCI/GDRY	04/12/2005
Ra228		4.54e-01	6.4e-02		PCI/GDRY	04/12/2005
Rn219		1.98e-01	8.2e-02		PCI/GDRY	04/12/2005
Th227		2.42e-01	7.4e-02		PCI/GDRY	04/12/2005
Th234	*	8.10e+00	6.6e-01		PCI/GDRY	04/12/2005
Tl208		1.39e-01	2.3e-02		PCI/GDRY	04/12/2005
U235	*	4.14e-01	3.8e-02		PCI/GDRY	04/12/2005

* An asterisk indicates a result whose value may be significantly over or underestimated.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
GAMMA ANALYSES
SDG #0500029

QC BATCH SUMMARY

QC batch #: 0003756U
Preparation procedure: N/A
Analysis procedure: NAREL GAM-01

NAREL Sample #	QC Type	Yield (%)	± 2σ Uncertainty (%)	Analyst
A5.02019E		N/A		DPS
A5.02019E	DUP	N/A		DPS

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

National Air and Radiation Environmental Laboratory
QC Batch Report

Batch #: 0003756U Analytical Procedure: NAREL GAM-01

LABORATORY DUPLICATES (PCI/GDRY)

ıple ID	Nuclide	Original ± 2σ	Duplicate ± 2σ	RPD	Z
02019E	BA140				
02019E	BI212	4.14e-01 ± 2.5e-01	2.59e-01 ± 2.2e-01	46.06	-0.92 OK
02019E	CO60				
02019E	CS137		4.94e-02 ± 1.4e-02		
02019E	I131				
02019E	K40	8.03e-01 ± 3.2e-01	1.01e+00 ± 2.3e-01	22.84	1.00 OK
02019E	PA231	5.57e-01 ± 3.3e-01	1.02e+00 ± 3.3e-01	58.72	1.94 OK
02019E	PB210				
02019E	PB212	3.71e-01 ± 4.1e-02	4.00e-01 ± 4.4e-02	7.52	0.71 OK
02019E	RA223	3.92e-01 ± 8.4e-02	3.75e-01 ± 8.5e-02	4.43	-0.26 OK
02019E	RA228	4.26e-01 ± 6.1e-02	4.54e-01 ± 6.4e-02	6.36	0.52 OK
02019E	RN219	2.05e-01 ± 9.5e-02	1.98e-01 ± 8.2e-02	3.47	-0.11 OK
02019E	TH227	2.46e-01 ± 6.9e-02	2.42e-01 ± 7.4e-02	1.64	-0.07 OK
02019E	TL208	1.27e-01 ± 2.6e-02	1.39e-01 ± 2.3e-02	9.02	0.62 OK

alyst: David P. Saunders 6/28/05
Saunders, David P.

Officer: Kurt D. McLaren 6/22/05

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES

REPORT OF SAMPLE DELIVERY GROUP #0500029

Project: PCS PHOS SUWANNEE
Analysis Procedure: Gross Alpha and Beta on Solid Samples
Date Reported: 06/30/2005

SAMPLES

NAREL Sample #	Client Sample ID	Type	Matrix	Date Collected	Date Received
A5.02019E	DICAL SB	SAM	SOIL	04/12/2005	04/19/2005

EXCEPTIONS

1. Packaging and Shipping - No problems were observed.
2. Documentation - No problems were observed.
3. Sample Preparation - No problems were encountered.
4. Analysis - No problems were encountered.
5. Holding Times - All holding times were met.

QUALITY CONTROL

1. QC samples - All QC analysis results met NAREL acceptance criteria.
2. Instruments - Response and background checks for all instruments used in these analyses met NAREL acceptance criteria.

CERTIFICATION

I certify that this data report complies with the terms and conditions of the Quality Assurance Project Plan, except as noted above. Release of the data contained in this report has been authorized by the Chief of the Monitoring and Analytical Services Branch and the NAREL Quality Assurance Coordinator, or their designees, as verified by the following signatures.

Mary Wisdom 6/30/05
Mary F. Wisdom Date
Quality Assurance Coordinator

John Griggs 6/30/05
John Griggs, Ph.D. Date
Chief, Monitoring and Analytical Services Branch

GENERAL INFORMATION

SAMPLE TYPES

BLD	Blind sample
FBK	Field blank
SAM	Normal sample

ANALYSIS QC TYPES

ANA	Normal analysis
DUP	Laboratory duplicate
LCS	Laboratory control sample (blank spike)
MS	Matrix spike
MSD	Matrix spike duplicate
RBK	Reagent blank

QUALITY INDICATORS

RPD	Relative Percent Difference
%R	Percent Recovery
Z	Number of standard deviations by which a QC measurement differs from the expected value

EVALUATION OF QC ANALYSES

A reagent blank result is considered unacceptable if it is more than 3 standard deviations below zero or more than 3 standard deviations above a predetermined upper control limit. For some analyses NAREL has set the upper control limit at zero. For others the control limit is a small positive number.

NAREL evaluates the results of duplicate and spike analyses using "*Z* scores." A *Z* score is the number of standard deviations by which the QC result differs from its ideal value. The score is considered acceptable if its absolute value is not greater than 3.

The *Z* score for a spiked sample is computed by dividing the difference between the measured value and the target value by the combined standard uncertainty of the difference.

The *Z* score for a duplicate analysis is computed by dividing the difference between the two measured values by the combined standard uncertainty of the difference. When the precision of paired MS/MSD analyses is evaluated, the native sample activity is subtracted from each measured value and the net concentrations are then converted to total activities before the *Z* score is computed.

Each standard uncertainty used to compute a *Z* score includes an additional fixed term to represent sources of measurement error other than counting error. This additional term is not used in the evaluation of reagent blanks.

NAREL reports the "relative percent difference," or RPD, between duplicate results and the "percent recovery," or %R, for spiked analyses, but does not use these values for evaluation.

GENERAL INFORMATION (CONTINUED)

GROSS ALPHA AND BETA ANALYSIS

In comparison to the methods employed to determine radionuclide-specific activities, the method employed by NAREL to determine gross alpha and beta activity has the potential for greater analytical bias. This is especially true for solid samples. It should be noted that this potential analytical uncertainty is not included in the two-sigma counting uncertainty term. Therefore, gross alpha and beta results should be used as gross approximations of the alpha and beta activity present.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500029

ANALYSIS SUMMARY

Analysis Procedure: NAREL GR-03
Title: Gross Alpha and Beta on Solid Samples

NAREL Sample #	QC Type	Preparation Procedure	Date Completed	Prep Batch #	QC Batch #
A5.02019E		N/A	06/27/2005	0009804V	0003767X
A5.02019E	DUP	N/A	06/27/2005	0009804V	0003767X
A5.02034D *		N/A	06/27/2005	0009804V	0003767X
A5.02036F *		N/A	06/27/2005	0009804V	0003767X
A5.02043E *		N/A	06/27/2005	0009804V	0003767X
A5.02045G *		N/A	06/27/2005	0009804V	0003767X
A5.02047J *		N/A	06/27/2005	0009804V	0003767X
A5.02049L *		N/A	06/27/2005	0009804V	0003767X
A5.02052F *		N/A	06/27/2005	0009804V	0003767X
A5.02055J *		N/A	06/27/2005	0009804V	0003767X
A5.02058M *		N/A	06/27/2005	0009804V	0003767X

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500029

SAMPLE ANALYSIS REPORT

Sample #:	A5.02019E	QC batch #:	0003767X
Matrix:	SOIL	Prep batch #:	0009804V
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	9.970e-02 GDRY	Analysis procedure:	NAREL GR-03
Dry/wet weight:	82.53 %	Analyst:	VH
Ash/dry weight:	N/A	QC type:	ANA

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/27/2005 14:15	100.0	G54A	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	4.03e+01	1.7e+01	8.3e+00	PCI/GDRY	06/27/2005
Beta	2.11e+01	5.4e+00	7.0e+00	PCI/GDRY	06/27/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500029

SAMPLE ANALYSIS REPORT

Sample #:	A5.02019E	QC batch #:	0003767X
Matrix:	SOIL	Prep batch #:	0009804V
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	1.004e-01 GDRY	Analysis procedure:	NAREL GR-03
Dry/wet weight:	82.53 %	Analyst:	VH
Ash/dry weight:	N/A	QC type:	DUP

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
06/27/2005 14:15	100.0	G54B	GVJ

ANALYTICAL RESULTS

Analyte	Activity	± 2σ Uncertainty	MDC	Unit	Date
Alpha	3.20e+01	1.7e+01	1.4e+01	PCI/GDRY	06/27/2005
Beta	1.96e+01	5.1e+00	6.4e+00	PCI/GDRY	06/27/2005

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY
ALPBET ANALYSES
SDG #0500029

QC BATCH SUMMARY

QC batch #: 0003767X
Preparation procedure: N/A
Analysis procedure: NAREL GR-03

NAREL Sample #	QC Type	Yield (%)	± 2σ Uncertainty (%)	Analyst
A5.02019E		N/A		VH
A5.02019E	DUP	N/A		VH
A5.02034D *		N/A		VH
A5.02036F *		N/A		VH
A5.02043E *		N/A		VH
A5.02045G *		N/A		VH
A5.02047J *		N/A		VH
A5.02049L *		N/A		VH
A5.02052F *		N/A		VH
A5.02055J *		N/A		VH
A5.02058M *		N/A		VH

* Samples marked with an asterisk are not in this sample delivery group but were analyzed with it for QC purposes.

National Air and Radiation Environmental Laboratory
QC Batch Report

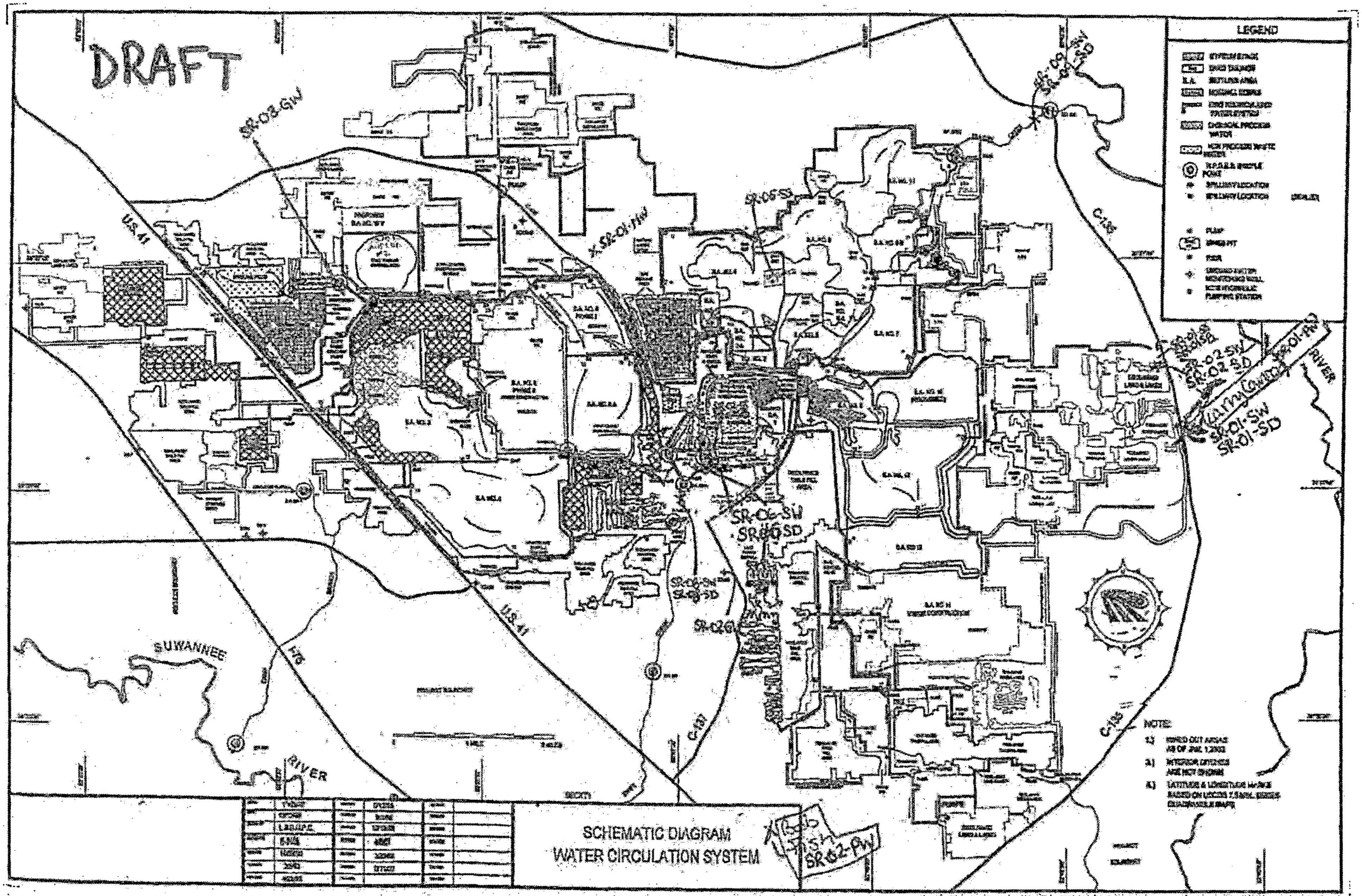
Batch #: 0003767X Analytical Procedure: NAREL GR-03

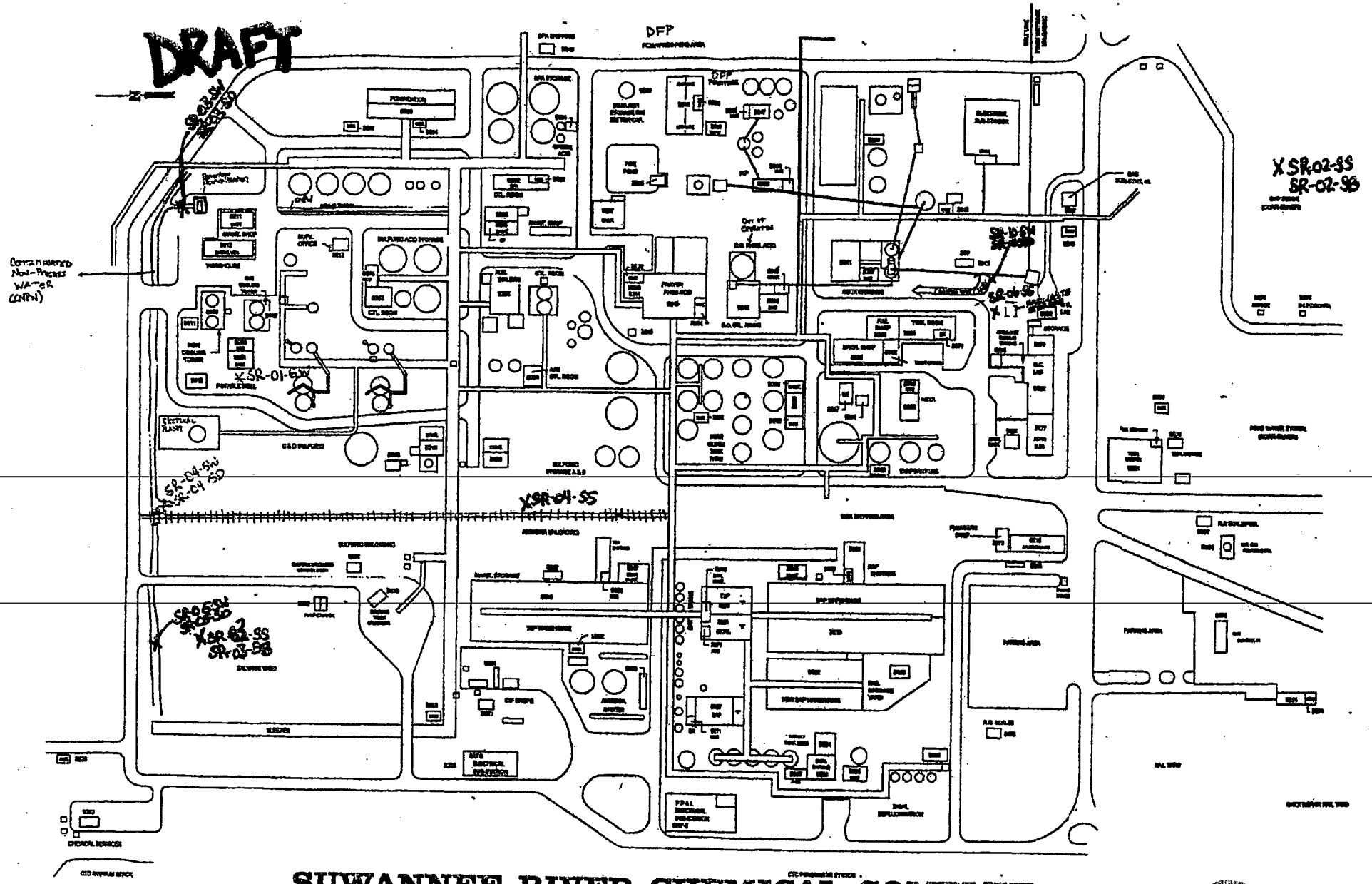
LABORATORY DUPLICATES (PCI/GDRY)

ple ID	Nuclide	Original ± 2σ	Duplicate ± 2σ	RPD	Z
02019E	ALPHA	4.03e+01 ± 1.7e+01	3.20e+01 ± 1.7e+01	23.00	-0.67 OK
02019E	BETA	2.11e+01 ± 5.4e+00	1.96e+01 ± 5.1e+00	7.13	-0.36 OK

alyst: Velinda Herbert 6/29/05
Herbert, Velinda

Officer: Linda J. McLean 6/29/05


DRAFT
SR-02-GW
SR-01-MW
SR-05-SS
U.S. 41
C-135
LEGEND
SR-02-SW
SR-02-SD
SR-01-SW
SR-01-SD
SR-06-SW
SUWANNEE
RIVER
U.S. 41
C-137
C-135
NOTE:
SCHEMATIC DIAGRAM
WATER CIRCULATION SYSTEM
SR-02-PW



SUWANNEE RIVER CHEMICAL COMPLEX

PCS Phosphate WHITE SPRINGS

METALS SAMPLE ANALYSIS | **EPA - REGION IV SESD, ATHENS, GA** | **Production Date: 06/08/2005 08:50**

Sample **4726** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR01MB /
Media: SURFACE WATER

Case No: 34073
MD No: 33D4

Inorg Contractor: SENTIN

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 12:20
Ending:

RESULTS	UNITS	ANALYTE
150 J	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
200 U	UG/L	Barium
5.0 U	UG/L	Beryllium
5.0 U	UG/L	Cadmium
5000 U	UG/L	Calcium
10 U	UG/L	Chromium
50 U	UG/L	Cobalt
25 U	UG/L	Copper
100 U	UG/L	Iron
10 U	UG/L	Lead
5000 U	UG/L	Magnesium
15 U	UG/L	Manganese
0.03 J	UG/L	Total Mercury
40 U	UG/L	Nickel
170 J	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
750 J	UG/L	Sodium
25 U	UG/L	Thallium
50 U	UG/L	Vanadium
60 U	UG/L	Zinc
NA	UG/L	Cyanide

Cyanide Analysis Not Requested

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample **4727** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR01PB /
Media: PRESERVATIVE BLANK

Case No: 34073
MD No: 33D8

Inorg Contractor: SENTIN

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 12:40
Ending:

RESULTS	UNITS	ANALYTE
190 UJ	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
200 U	UG/L	Barium
5.0 U	UG/L	Beryllium
5.0 U	UG/L	Cadmium
120 J	UG/L	Calcium
10 U	UG/L	Chromium
50 U	UG/L	Cobalt
25 U	UG/L	Copper
100 U	UG/L	Iron
10 U	UG/L	Lead
5000 U	UG/L	Magnesium
15 U	UG/L	Manganese
0.20 U	UG/L	Total Mercury
40 U	UG/L	Nickel
210 UJ	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
1100 UJ	UG/L	Sodium
25 U	UG/L	Thallium
50 U	UG/L	Vanadium
1.6 R	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS | **EPA - REGION IV SESD, ATHENS, GA** | **Production Date: 06/08/2005 08:50**

Sample **4728** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR01RB /
Media: EQUIPMENT RINSE BLANK

Case No: 34073
MD No: 33D9
D No: 33D9

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 12:45
Ending:

RESULTS	UNITS	ANALYTE
170 UJ	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
200 U	UG/L	Barium
5.0 U	UG/L	Beryllium
5.0 U	UG/L	Cadmium
110 J	UG/L	Calcium
10 U	UG/L	Chromium
50 U	UG/L	Cobalt
25 U	UG/L	Copper
100 U	UG/L	Iron
10 U	UG/L	Lead
5000 U	UG/L	Magnesium
0.32 R	UG/L	Manganese
0.05 UJ	UG/L	Total Mercury
40 U	UG/L	Nickel
180 UJ	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
890 UJ	UG/L	Sodium
25 U	UG/L	Thallium
50 U	UG/L	Vanadium
2.3 J	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample **4729** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR03SS /
Media: SURFACE SOIL

Case No: 34073
MD No: 33E0
D No: 33E0

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 10:00
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
3100 J	MG/KG	Aluminum
6.6 U	MG/KG	Antimony
0.51 R	MG/KG	Arsenic
28	MG/KG	Barium
0.11 UJ	MG/KG	Beryllium
0.32 UJ	MG/KG	Cadmium
16000 J	MG/KG	Calcium
5.3	MG/KG	Chromium
0.29 J	MG/KG	Cobalt
1.4 UJ	MG/KG	Copper
820	MG/KG	Iron
4.4 J	MG/KG	Lead
260 J	MG/KG	Magnesium
14	MG/KG	Manganese
0.03 UJ	MG/KG	Total Mercury
1.3 UJ	MG/KG	Nickel
72 J	MG/KG	Potassium
3.8 U	MG/KG	Selenium
0.09 UJ	MG/KG	Silver
320 UJ	MG/KG	Sodium
2.7 U	MG/KG	Thallium
4.7 J	MG/KG	Vanadium
16	MG/KG	Zinc
2.7 U	MG/KG	Cyanide
8	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4730** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR03DSS /
Media: SURFACE SOIL

Case No: 34073
MD No: 33E1
D No: 33E1

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 10:00
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
2900 J	MG/KG	Aluminum
6.6 U	MG/KG	Antimony
0.48 R	MG/KG	Arsenic
26	MG/KG	Barium
0.10 UJ	MG/KG	Beryllium
0.30 UJ	MG/KG	Cadmium
24000 J	MG/KG	Calcium
5.3	MG/KG	Chromium
0.30 J	MG/KG	Cobalt
1.4 UJ	MG/KG	Copper
790	MG/KG	Iron
4.9 J	MG/KG	Lead
300 J	MG/KG	Magnesium
12	MG/KG	Manganese
0.05 UJ	MG/KG	Total Mercury
1.5 UJ	MG/KG	Nickel
66 J	MG/KG	Potassium
3.9 U	MG/KG	Selenium
0.10 UJ	MG/KG	Silver
310 UJ	MG/KG	Sodium
2.8 U	MG/KG	Thallium
4.5 J	MG/KG	Vanadium
19	MG/KG	Zinc
2.8 U	MG/KG	Cyanide
9	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample 4731 FY 2005 Project: 05-0510

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR03SB /
Media: SUBSURFACE SOIL

Case No: 34073
MD No: 33E2
D No: 33E2

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 10:35
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
2300 J	MG/KG	Aluminum
6.6 U	MG/KG	Antimony
1.1 U	MG/KG	Arsenic
3.4 J	MG/KG	Barium
0.02 UJ	MG/KG	Beryllium
0.09 UJ	MG/KG	Cadmium
420 J	MG/KG	Calcium
1.0 J	MG/KG	Chromium
5.5 U	MG/KG	Cobalt
0.80 UJ	MG/KG	Copper
230	MG/KG	Iron
0.78 R	MG/KG	Lead
39 J	MG/KG	Magnesium
0.89 UJ	MG/KG	Manganese
0.03 UJ	MG/KG	Total Mercury
0.97 UJ	MG/KG	Nickel
25 J	MG/KG	Potassium
0.59 UJ	MG/KG	Selenium
0.05 UJ	MG/KG	Silver
140 UJ	MG/KG	Sodium
2.7 U	MG/KG	Thallium
0.73 J	MG/KG	Vanadium
4.3 UJ	MG/KG	Zinc
2.7 U	MG/KG	Cyanide
9	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS | **EPA - REGION IV SESD, ATHENS, GA** | **Production Date: 06/08/2005 08:50**

Sample **4732** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR04SS / MD No: 33E3 Inorg Contractor: SENTIN
Media: SURFACE SOIL D No: 33E3 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 11:05
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
14000 J	MG/KG	Aluminum
1.2 J	MG/KG	Antimony
3.5	MG/KG	Arsenic
490	MG/KG	Barium
1.7	MG/KG	Beryllium
0.59 UJ	MG/KG	Cadmium
17000 J	MG/KG	Calcium
84	MG/KG	Chromium
4.8 J	MG/KG	Cobalt
37	MG/KG	Copper
42000	MG/KG	Iron
2.3 J	MG/KG	Lead
1600	MG/KG	Magnesium
170	MG/KG	Manganese
0.31	MG/KG	Total Mercury
28	MG/KG	Nickel
2100	MG/KG	Potassium
5.0 U	MG/KG	Selenium
1.5	MG/KG	Silver
770	MG/KG	Sodium
2.6 UJ	MG/KG	Thallium
110	MG/KG	Vanadium
37	MG/KG	Zinc
3.5 U	MG/KG	Cyanide
29	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample 4733 FY 2005 Project: 05-0510

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR05SS /
Media: SURFACE SOIL

Case No: 34073
MD No: 33E4
D No: 33E4

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 11:50
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
7300 J	MG/KG	Aluminum
7.7 U	MG/KG	Antimony
0.65 J	MG/KG	Arsenic
160	MG/KG	Barium
0.29 UJ	MG/KG	Beryllium
0.17 UJ	MG/KG	Cadmium
2200 J	MG/KG	Calcium
9.0	MG/KG	Chromium
0.30 J	MG/KG	Cobalt
0.92 UJ	MG/KG	Copper
1100	MG/KG	Iron
12 J	MG/KG	Lead
280 J	MG/KG	Magnesium
5.8	MG/KG	Manganese
0.08 UJ	MG/KG	Total Mercury
1.2 UJ	MG/KG	Nickel
110 J	MG/KG	Potassium
0.64 UJ	MG/KG	Selenium
1.3 U	MG/KG	Silver
160 UJ	MG/KG	Sodium
3.2 U	MG/KG	Thallium
9.1	MG/KG	Vanadium
4.9 UJ	MG/KG	Zinc
3.2 U	MG/KG	Cyanide
22	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS | **EPA - REGION IV SESD, ATHENS, GA** | **Production Date: 06/08/2005 08:50**

Sample **4734** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR03SW / MD No: 33E5 Inorg Contractor: SENTIN
Media: SURFACE WATER D No: 33E5 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 15:45
Ending:

RESULTS	UNITS	ANALYTE
1300	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
28 J	UG/L	Barium
0.17 UJ	UG/L	Beryllium
5.0 U	UG/L	Cadmium
53000	UG/L	Calcium
8.5 J	UG/L	Chromium
50 U	UG/L	Cobalt
1.7 J	UG/L	Copper
1300	UG/L	Iron
10 U	UG/L	Lead
19000	UG/L	Magnesium
58	UG/L	Manganese
0.07 UJ	UG/L	Total Mercury
2.4 J	UG/L	Nickel
1600 J	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
15000	UG/L	Sodium
25 U	UG/L	Thallium
4.8 J	UG/L	Vanadium
17 J	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

EPA - REGION IV

Sample 4735 FY 2005 Project: 05-0510

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR03SD /
Media: SEDIMENT

Case No: 34073
MD No: 33E6
D No: 33E6

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 16:00
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
4600 J	MG/KG	Aluminum
10 U	MG/KG	Antimony
2.5	MG/KG	Arsenic
79	MG/KG	Barium
0.44 UJ	MG/KG	Beryllium
1.6	MG/KG	Cadmium
60000 J	MG/KG	Calcium
25	MG/KG	Chromium
1.4 J	MG/KG	Cobalt
9.4	MG/KG	Copper
4600	MG/KG	Iron
12 J	MG/KG	Lead
1100	MG/KG	Magnesium
67	MG/KG	Manganese
0.15 UJ	MG/KG	Total Mercury
6.5 UJ	MG/KG	Nickel
260 J	MG/KG	Potassium
5.9 U	MG/KG	Selenium
0.10 UJ	MG/KG	Silver
980	MG/KG	Sodium
4.2 U	MG/KG	Thallium
34	MG/KG	Vanadium
74	MG/KG	Zinc
4.2 U	MG/KG	Cyanide
41	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS | **EPA - REGION IV SESD, ATHENS, GA** | **Production Date: 06/08/2005 08:50**

Sample **4736** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR04SW /
Media: SURFACE WATER

Case No: 34073
MD No: 33E7
D No: 33E7

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 14:20
Ending:

RESULTS	UNITS	ANALYTE
21000	UG/L	Aluminum
60 U	UG/L	Antimony
2.7 R	UG/L	Arsenic
31 J	UG/L	Barium
0.89 UJ	UG/L	Beryllium
0.51 R	UG/L	Cadmium
110000	UG/L	Calcium
27	UG/L	Chromium
8.3 J	UG/L	Cobalt
37	UG/L	Copper
26000	UG/L	Iron
10 U	UG/L	Lead
17000	UG/L	Magnesium
650	UG/L	Manganese
0.04 UJ	UG/L	Total Mercury
17 J	UG/L	Nickel
9000	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
22000	UG/L	Sodium
25 U	UG/L	Thallium
55	UG/L	Vanadium
110	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample **4737** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR04SD /
Media: SEDIMENT

Case No: 34073
MD No: 33E8
D No: 33E8

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 14:45
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
1500 J	MG/KG	Aluminum
8.5 U	MG/KG	Antimony
2.5	MG/KG	Arsenic
12 J	MG/KG	Barium
0.11 UJ	MG/KG	Beryllium
0.71 U	MG/KG	Cadmium
330 J	MG/KG	Calcium
9.9	MG/KG	Chromium
7.1 U	MG/KG	Cobalt
1.9 UJ	MG/KG	Copper
10000	MG/KG	Iron
4.4 J	MG/KG	Lead
71 J	MG/KG	Magnesium
4.8	MG/KG	Manganese
0.04 UJ	MG/KG	Total Mercury
2.1 UJ	MG/KG	Nickel
65 J	MG/KG	Potassium
5.0 U	MG/KG	Selenium
0.67 UJ	MG/KG	Silver
150 UJ	MG/KG	Sodium
3.6 U	MG/KG	Thallium
15	MG/KG	Vanadium
8.5 U	MG/KG	Zinc
3.6 U	MG/KG	Cyanide
30	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4738** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR02MW / MD No: 33E9 Inorg Contractor: SENTIN
Media: GROUNDWATER D No: 33E9 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 10:53
Ending:

RESULTS	UNITS	ANALYTE
3000	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
31 J	UG/L	Barium
1.6 J	UG/L	Beryllium
4.9 J	UG/L	Cadmium
140000	UG/L	Calcium
6.1 J	UG/L	Chromium
13 J	UG/L	Cobalt
3.1 R	UG/L	Copper
11000	UG/L	Iron
10 U	UG/L	Lead
48000	UG/L	Magnesium
1200	UG/L	Manganese
0.04 UJ	UG/L	Total Mercury
35 J	UG/L	Nickel
8400	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
53000	UG/L	Sodium
25 U	UG/L	Thallium
24 J	UG/L	Vanadium
190	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample 4739 FY 2005 Project: 05-0510

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR02GW /
Media: GROUNDWATER

Case No: 34073
MD No: 33F0
D No: 33F0

Inorg Contractor: SENTIN
Org Contractor: LIBRTY

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 08:52
Ending:

RESULTS	UNITS	ANALYTE
56 UJ	UG/L	Aluminum
2.0 U	UG/L	Antimony
6.8	UG/L	Arsenic
4.9 J	UG/L	Barium
1.0 U	UG/L	Beryllium
1.0 U	UG/L	Cadmium
65000	UG/L	Calcium
2.0 U	UG/L	Chromium
0.10 J	UG/L	Cobalt
0.44 J	UG/L	Copper
310	UG/L	Iron
0.05 R	UG/L	Lead
13000	UG/L	Magnesium
14	UG/L	Manganese
0.20 U	UG/L	Total Mercury
1.1	UG/L	Nickel
790 UJ	UG/L	Potassium
5.0 U	UG/L	Selenium
1.0 U	UG/L	Silver
4000 J	UG/L	Sodium
1.0 U	UG/L	Thallium
0.03 R	UG/L	Vanadium
3.8	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4740** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR02DGW /
Media: GROUNDWATER

Case No: 34073
MD No: 33F1
D No: 33F1

Inorg Contractor: SENTIN
Org Contractor: LIBRTY

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 08:52
Ending:

RESULTS	UNITS	ANALYTE
50 UJ	UG/L	Aluminum
2.0 U	UG/L	Antimony
6.5	UG/L	Arsenic
4.8 J	UG/L	Barium
1.0 U	UG/L	Beryllium
1.0 U	UG/L	Cadmium
64000	UG/L	Calcium
2.0 U	UG/L	Chromium
0.11 J	UG/L	Cobalt
5.8	UG/L	Copper
300	UG/L	Iron
0.16 J	UG/L	Lead
13000	UG/L	Magnesium
13	UG/L	Manganese
0.04 UJ	UG/L	Total Mercury
1.1	UG/L	Nickel
770 UJ	UG/L	Potassium
5.0 U	UG/L	Selenium
1.0 U	UG/L	Silver
3600 UJ	UG/L	Sodium
1.0 U	UG/L	Thallium
0.03 R	UG/L	Vanadium
3.6	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample **4741** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR05SD /
Media: SEDIMENT

Case No: 34073
MD No: 33F2
D No: 33F2

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 14:20
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
18000 J	MG/KG	Aluminum
13 U	MG/KG	Antimony
3.6	MG/KG	Arsenic
320	MG/KG	Barium
0.59 UJ	MG/KG	Beryllium
1.7	MG/KG	Cadmium
27000 J	MG/KG	Calcium
45	MG/KG	Chromium
1.6 J	MG/KG	Cobalt
17	MG/KG	Copper
9400	MG/KG	Iron
28 J	MG/KG	Lead
1300	MG/KG	Magnesium
61	MG/KG	Manganese
0.48	MG/KG	Total Mercury
7.4 UJ	MG/KG	Nickel
330 J	MG/KG	Potassium
1.0 UJ	MG/KG	Selenium
0.43 UJ	MG/KG	Silver
620 UJ	MG/KG	Sodium
5.5 U	MG/KG	Thallium
34	MG/KG	Vanadium
68	MG/KG	Zinc
5.5 U	MG/KG	Cyanide
55	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS | **EPA - REGION IV SESD, ATHENS, GA** | **Production Date: 06/08/2005 08:50**

Sample **4742** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR06SS / MD No: 33F3 Inorg Contractor: SENTIN
Media: SURFACE SOIL D No: 33F3 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 15:10
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
2700 J	MG/KG	Aluminum
0.43 R	MG/KG	Antimony
3.3	MG/KG	Arsenic
42	MG/KG	Barium
0.50 UJ	MG/KG	Beryllium
1.6	MG/KG	Cadmium
64000 J	MG/KG	Calcium
19	MG/KG	Chromium
1.3 J	MG/KG	Cobalt
7.8	MG/KG	Copper
5300	MG/KG	Iron
5.9 J	MG/KG	Lead
560 J	MG/KG	Magnesium
110	MG/KG	Manganese
0.17	MG/KG	Total Mercury
5.5	MG/KG	Nickel
370 J	MG/KG	Potassium
4.2 U	MG/KG	Selenium
1.2 U	MG/KG	Silver
1300 U	MG/KG	Sodium
3.0 U	MG/KG	Thallium
19	MG/KG	Vanadium
54	MG/KG	Zinc
3.0 U	MG/KG	Cyanide
17	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample **4743** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR01SS / MD No: 33F4 Inorg Contractor: SENTIN
Media: SURFACE SOIL D No: 33F4 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 10:55
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
1200 J	MG/KG	Aluminum
7.1 U	MG/KG	Antimony
1.2 U	MG/KG	Arsenic
23 J	MG/KG	Barium
0.08 UJ	MG/KG	Beryllium
0.09 UJ	MG/KG	Cadmium
1500 J	MG/KG	Calcium
1.5	MG/KG	Chromium
5.9 U	MG/KG	Cobalt
0.63 UJ	MG/KG	Copper
270	MG/KG	Iron
2.3 J	MG/KG	Lead
81 J	MG/KG	Magnesium
12	MG/KG	Manganese
0.02 UJ	MG/KG	Total Mercury
0.38 UJ	MG/KG	Nickel
54 J	MG/KG	Potassium
4.2 U	MG/KG	Selenium
1.2 U	MG/KG	Silver
120 UJ	MG/KG	Sodium
3.0 U	MG/KG	Thallium
1.2 J	MG/KG	Vanadium
2.2 UJ	MG/KG	Zinc
3.0 U	MG/KG	Cyanide
16	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4744** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR01SB / MD No: 33F5 Inorg Contractor: SENTIN
Media: SUBSURFACE SOIL D No: 33F5 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 11:35
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
850 J	MG/KG	Aluminum
7.5 U	MG/KG	Antimony
0.52 R	MG/KG	Arsenic
2.4 J	MG/KG	Barium
0.03 UJ	MG/KG	Beryllium
0.08 UJ	MG/KG	Cadmium
85 J	MG/KG	Calcium
0.60 J	MG/KG	Chromium
6.3 U	MG/KG	Cobalt
0.40 UJ	MG/KG	Copper
180	MG/KG	Iron
0.80 R	MG/KG	Lead
19 J	MG/KG	Magnesium
1.2 UJ	MG/KG	Manganese
0.03 UJ	MG/KG	Total Mercury
0.54 UJ	MG/KG	Nickel
18 J	MG/KG	Potassium
4.4 U	MG/KG	Selenium
1.3 U	MG/KG	Silver
110 UJ	MG/KG	Sodium
3.1 U	MG/KG	Thallium
0.35 J	MG/KG	Vanadium
0.88 UJ	MG/KG	Zinc
3.1 U	MG/KG	Cyanide
20	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

EPA - REGION IV

Sample 4745 FY 2005 Project: 05-0510

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR01SD /
Media: SEDIMENT

Case No: 34073
MD No: 33F7
D No: 33F7

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 14:35
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
6900 J	MG/KG	Aluminum
8.3 U	MG/KG	Antimony
1.1 J	MG/KG	Arsenic
150	MG/KG	Barium
0.45 UJ	MG/KG	Beryllium
0.10 UJ	MG/KG	Cadmium
7200 J	MG/KG	Calcium
8.0	MG/KG	Chromium
0.38 J	MG/KG	Cobalt
3.5 U	MG/KG	Copper
2400	MG/KG	Iron
7.8 J	MG/KG	Lead
450 J	MG/KG	Magnesium
19	MG/KG	Manganese
0.05 UJ	MG/KG	Total Mercury
1.5 UJ	MG/KG	Nickel
110 J	MG/KG	Potassium
4.9 U	MG/KG	Selenium
1.4 U	MG/KG	Silver
180 UJ	MG/KG	Sodium
3.5 U	MG/KG	Thallium
7.0	MG/KG	Vanadium
3.3 UJ	MG/KG	Zinc
3.5 U	MG/KG	Cyanide
28	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS | **EPA - REGION IV SESD, ATHENS, GA** | **Production Date: 06/08/2005 08:50**

Sample **4746** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR02SD / MD No: 33F9 Inorg Contractor: SENTIN
Media: SEDIMENT D No: 33F9 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 09:55
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
9300 J	MG/KG	Aluminum
7.8 U	MG/KG	Antimony
1.2 J	MG/KG	Arsenic
98	MG/KG	Barium
0.40 UJ	MG/KG	Beryllium
0.44 UJ	MG/KG	Cadmium
16000 J	MG/KG	Calcium
13	MG/KG	Chromium
1.7 J	MG/KG	Cobalt
2.4 UJ	MG/KG	Copper
1500	MG/KG	Iron
7.8 J	MG/KG	Lead
610 J	MG/KG	Magnesium
20	MG/KG	Manganese
0.07 UJ	MG/KG	Total Mercury
2.8 UJ	MG/KG	Nickel
320 J	MG/KG	Potassium
0.98 UJ	MG/KG	Selenium
1.3 U	MG/KG	Silver
320 UJ	MG/KG	Sodium
3.2 U	MG/KG	Thallium
13	MG/KG	Vanadium
10	MG/KG	Zinc
3.2 U	MG/KG	Cyanide
23	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

EPA - REGION V

Sample **4747** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR01SW /
Media: SURFACE WATER

Case No: 34073
MD No: 33F6
D No: 33F6

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 14:10
Ending:

RESULTS	UNITS	ANALYTE
230 U	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
4.5 J	UG/L	Barium
0.25 UJ	UG/L	Beryllium
5.0 U	UG/L	Cadmium
16000	UG/L	Calcium
10 U	UG/L	Chromium
50 U	UG/L	Cobalt
25 U	UG/L	Copper
250	UG/L	Iron
10 U	UG/L	Lead
9600	UG/L	Magnesium
35	UG/L	Manganese
0.03 UJ	UG/L	Total Mercury
40 U	UG/L	Nickel
1100 J	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
9500	UG/L	Sodium
25 U	UG/L	Thallium
50 U	UG/L	Vanadium
60 U	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems, Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS | **EPA - REGION IV SESD, ATHENS, GA** | **Production Date: 06/08/2005 08:50**

Sample **4748** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR02SW / MD No: 33F8 Inorg Contractor: SENTIN
Media: SURFACE WATER D No: 33F8 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 09:30
Ending:

RESULTS	UNITS	ANALYTE
390 U	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
5.2 J	UG/L	Barium
0.20 J	UG/L	Beryllium
5.0 U	UG/L	Cadmium
8800	UG/L	Calcium
10 U	UG/L	Chromium
50 U	UG/L	Cobalt
2.8 J	UG/L	Copper
390	UG/L	Iron
10 U	UG/L	Lead
2100 J	UG/L	Magnesium
62	UG/L	Manganese
0.05 UJ	UG/L	Total Mercury
1.8 J	UG/L	Nickel
5100	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
4100 J	UG/L	Sodium
25 U	UG/L	Thallium
2.1 R	UG/L	Vanadium
25 J	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

EPA - REGION IV

Sample 4749 FY 2005 Project: 05-0510

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR05SW /
Media: SURFACE WATER

Case No: 34073
MD No: 33G0
D No: 33G0

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 14:00
Ending:

RESULTS	UNITS	ANALYTE
2100	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
44 J	UG/L	Barium
0.49 UJ	UG/L	Beryllium
0.57 R	UG/L	Cadmium
58000	UG/L	Calcium
15	UG/L	Chromium
50 U	UG/L	Cobalt
3.3 R	UG/L	Copper
2400	UG/L	Iron
3.4 R	UG/L	Lead
20000	UG/L	Magnesium
62	UG/L	Manganese
0.07 UJ	UG/L	Total Mercury
3.5 J	UG/L	Nickel
1600 J	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
16000	UG/L	Sodium
25 U	UG/L	Thallium
7.2 J	UG/L	Vanadium
27 J	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4750** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR01MW /
Media: GROUNDWATER

Case No: 34073
MD No: 33G1
D No: 33G1

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 16:45
Ending:

RESULTS	UNITS	ANALYTE
390 U	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
3.6 J	UG/L	Barium
0.19 UJ	UG/L	Beryllium
5.0 U	UG/L	Cadmium
11000	UG/L	Calcium
10 U	UG/L	Chromium
0.96 R	UG/L	Cobalt
25 U	UG/L	Copper
3800	UG/L	Iron
10 U	UG/L	Lead
1100 J	UG/L	Magnesium
49	UG/L	Manganese
0.04 UJ	UG/L	Total Mercury
6.1 J	UG/L	Nickel
1100 J	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
4200 J	UG/L	Sodium
25 U	UG/L	Thallium
50 U	UG/L	Vanadium
30 J	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample **4751** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR01GW /
Media: GROUNDWATER

Case No: 34073
MD No: 33G2
D No: 33G2

Inorg Contractor: SENTIN
Org Contractor: LIBRTY

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 10:45
Ending:

RESULTS	UNITS	ANALYTE
55 UJ	UG/L	Aluminum
2.0 U	UG/L	Antimony
0.12 R	UG/L	Arsenic
26 J	UG/L	Barium
1.0 U	UG/L	Beryllium
1.0 U	UG/L	Cadmium
66000	UG/L	Calcium
0.23 J	UG/L	Chromium
0.11 J	UG/L	Cobalt
0.61 J	UG/L	Copper
70 J	UG/L	Iron
0.04 R	UG/L	Lead
26000	UG/L	Magnesium
37	UG/L	Manganese
0.03 UJ	UG/L	Total Mercury
1.1	UG/L	Nickel
1000 J	UG/L	Potassium
5.0 U	UG/L	Selenium
1.0 U	UG/L	Silver
6500	UG/L	Sodium
1.0 U	UG/L	Thallium
0.15 R	UG/L	Vanadium
2.5	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4752** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR03GW / MD No: 33G3 Inorg Contractor: SENTIN
Media: GROUNDWATER D No: 33G3 Org Contractor: LIBRTY

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 10:05
Ending:

RESULTS	UNITS	ANALYTE
85 UJ	UG/L	Aluminum
2.0 U	UG/L	Antimony
0.35 R	UG/L	Arsenic
9.7 J	UG/L	Barium
1.0 U	UG/L	Beryllium
1.0 U	UG/L	Cadmium
44000	UG/L	Calcium
0.32 J	UG/L	Chromium
0.10 J	UG/L	Cobalt
4.0	UG/L	Copper
170	UG/L	Iron
1.0 U	UG/L	Lead
20000	UG/L	Magnesium
57	UG/L	Manganese
0.04 UJ	UG/L	Total Mercury
0.96 J	UG/L	Nickel
760 UJ	UG/L	Potassium
5.0 U	UG/L	Selenium
1.0 U	UG/L	Silver
5700	UG/L	Sodium
1.0 U	UG/L	Thallium
0.54 J	UG/L	Vanadium
1.6 UJ	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample **4753** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR02SS / MD No: 33G4 Inorg Contractor: SENTIN
Media: SURFACE SOIL

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/15/2005 09:50
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
560 J	MG/KG	Aluminum
8.5 U	MG/KG	Antimony
0.83 R	MG/KG	Arsenic
42	MG/KG	Barium
0.71 U	MG/KG	Beryllium
0.29 UJ	MG/KG	Cadmium
120000 J	MG/KG	Calcium
1.1 J	MG/KG	Chromium
7.1 U	MG/KG	Cobalt
3.6 U	MG/KG	Copper
280	MG/KG	Iron
5.7 J	MG/KG	Lead
9.2 UJ	MG/KG	Magnesium
2.0 UJ	MG/KG	Manganese
0.10 UJ	MG/KG	Total Mercury
0.28 UJ	MG/KG	Nickel
59 J	MG/KG	Potassium
5.0 U	MG/KG	Selenium
1.4 U	MG/KG	Silver
200 UJ	MG/KG	Sodium
3.6 U	MG/KG	Thallium
0.60 J	MG/KG	Vanadium
29	MG/KG	Zinc
3.6 U	MG/KG	Cyanide
30	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4754** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR08SD /
Media: SEDIMENT

Case No: 34073
MD No: 33G5
D No: 33G5

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/15/2005 13:40
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
9100 J	MG/KG	Aluminum
11 U	MG/KG	Antimony
1.3 R	MG/KG	Arsenic
150	MG/KG	Barium
0.56 UJ	MG/KG	Beryllium
1.7	MG/KG	Cadmium
9800 J	MG/KG	Calcium
12	MG/KG	Chromium
1.9 J	MG/KG	Cobalt
2.6 UJ	MG/KG	Copper
2900	MG/KG	Iron
9.6 J	MG/KG	Lead
690 J	MG/KG	Magnesium
60	MG/KG	Manganese
0.07 UJ	MG/KG	Total Mercury
5.0 UJ	MG/KG	Nickel
150 J	MG/KG	Potassium
6.3 U	MG/KG	Selenium
0.21 UJ	MG/KG	Silver
290 UJ	MG/KG	Sodium
4.5 U	MG/KG	Thallium
9.6	MG/KG	Vanadium
29	MG/KG	Zinc
4.5 U	MG/KG	Cyanide
45	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample **4755** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR09SD /
Media: SEDIMENT

Case No: 34073
MD No: 33G6
D No: 33G6

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/15/2005 12:55
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
710 J	MG/KG	Aluminum
7.9 U	MG/KG	Antimony
1.3 U	MG/KG	Arsenic
24 J	MG/KG	Barium
0.07 UJ	MG/KG	Beryllium
0.11 UJ	MG/KG	Cadmium
410 J	MG/KG	Calcium
1.0 J	MG/KG	Chromium
6.6 U	MG/KG	Cobalt
3.3 U	MG/KG	Copper
140	MG/KG	Iron
1.6 J	MG/KG	Lead
44 J	MG/KG	Magnesium
4.1	MG/KG	Manganese
0.02 UJ	MG/KG	Total Mercury
0.25 UJ	MG/KG	Nickel
22 J	MG/KG	Potassium
4.6 U	MG/KG	Selenium
1.3 U	MG/KG	Silver
130 UJ	MG/KG	Sodium
3.3 U	MG/KG	Thallium
0.82 J	MG/KG	Vanadium
1.4 UJ	MG/KG	Zinc
3.3 U	MG/KG	Cyanide
24	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4756** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR06SD / MD No: 33G8 Inorg Contractor: SENTIN
Media: SEDIMENT D No: 33G8 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/15/2005 12:20
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
6300 J	MG/KG	Aluminum
7.5 U	MG/KG	Antimony
1.5	MG/KG	Arsenic
200	MG/KG	Barium
0.16 UJ	MG/KG	Beryllium
0.08 UJ	MG/KG	Cadmium
2800 J	MG/KG	Calcium
11	MG/KG	Chromium
6.3 U	MG/KG	Cobalt
1.0 UJ	MG/KG	Copper
2400	MG/KG	Iron
16 J	MG/KG	Lead
230 J	MG/KG	Magnesium
3.1	MG/KG	Manganese
0.08 UJ	MG/KG	Total Mercury
0.60 UJ	MG/KG	Nickel
59 J	MG/KG	Potassium
0.45 UJ	MG/KG	Selenium
0.12 UJ	MG/KG	Silver
140 UJ	MG/KG	Sodium
3.1 U	MG/KG	Thallium
14	MG/KG	Vanadium
1.2 UJ	MG/KG	Zinc
3.1 U	MG/KG	Cyanide
20	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample **4757** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR10SD /
Media: SEDIMENT

Case No: 34073
MD No: 33G7
D No: 33G7

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/15/2005 11:05
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
2500 J	MG/KG	Aluminum
0.52 J	MG/KG	Antimony
2.5	MG/KG	Arsenic
48	MG/KG	Barium
0.62 UJ	MG/KG	Beryllium
1.7	MG/KG	Cadmium
69000 J	MG/KG	Calcium
19	MG/KG	Chromium
1.0 J	MG/KG	Cobalt
85	MG/KG	Copper
3200	MG/KG	Iron
5.7 J	MG/KG	Lead
800	MG/KG	Magnesium
100	MG/KG	Manganese
0.07 UJ	MG/KG	Total Mercury
7.5	MG/KG	Nickel
350 J	MG/KG	Potassium
4.6 U	MG/KG	Selenium
1.3 U	MG/KG	Silver
1300 U	MG/KG	Sodium
3.3 U	MG/KG	Thallium
21	MG/KG	Vanadium
59	MG/KG	Zinc
3.3 U	MG/KG	Cyanide
24	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4758** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR02PW / MD No: 33H0 Inorg Contractor: SENTIN
Media: GROUNDWATER D No: 33H0 Org Contractor: LIBRTY

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/08/2005 11:00
Ending:

RESULTS	UNITS	ANALYTE
230 U	UG/L	Aluminum
2.0 U	UG/L	Antimony
0.20 R	UG/L	Arsenic
2.8 J	UG/L	Barium
0.07 R	UG/L	Beryllium
0.70 J	UG/L	Cadmium
17000	UG/L	Calcium
0.79 J	UG/L	Chromium
0.57 J	UG/L	Cobalt
10	UG/L	Copper
48 J	UG/L	Iron
1.4	UG/L	Lead
3800 J	UG/L	Magnesium
52	UG/L	Manganese
0.20 U	UG/L	Total Mercury
1.5	UG/L	Nickel
2500 J	UG/L	Potassium
5.0 U	UG/L	Selenium
1.0 U	UG/L	Silver
7800	UG/L	Sodium
0.12 J	UG/L	Thallium
2.4	UG/L	Vanadium
62	UG/L	Zinc
10 UJ	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample **4759** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR06SW /
Media: SURFACE WATER

Case No: 34073
MD No: 33H1
D No: 33H1

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/15/2005 12:10
Ending:

RESULTS	UNITS	ANALYTE
1000	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
10 J	UG/L	Barium
0.16 UJ	UG/L	Beryllium
5.0 U	UG/L	Cadmium
8500	UG/L	Calcium
0.86 J	UG/L	Chromium
50 U	UG/L	Cobalt
25 U	UG/L	Copper
900	UG/L	Iron
10 U	UG/L	Lead
4300 J	UG/L	Magnesium
40	UG/L	Manganese
0.04 UJ	UG/L	Total Mercury
40 U	UG/L	Nickel
660 UJ	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
3400 UJ	UG/L	Sodium
25 U	UG/L	Thallium
2.2 J	UG/L	Vanadium
2.8 J	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4760** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR08SW / MD No: 33H2 Inorg Contractor: SENTIN
Media: SURFACE WATER D No: 33H2 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/15/2005 13:20
Ending:

RESULTS	UNITS	ANALYTE
770 U	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
8.1 J	UG/L	Barium
0.43 UJ	UG/L	Beryllium
5.0 U	UG/L	Cadmium
19000	UG/L	Calcium
1.1 J	UG/L	Chromium
50 U	UG/L	Cobalt
25 U	UG/L	Copper
630	UG/L	Iron
10 U	UG/L	Lead
9500	UG/L	Magnesium
39	UG/L	Manganese
0.05 UJ	UG/L	Total Mercury
1.7 J	UG/L	Nickel
1700 J	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
17000	UG/L	Sodium
25 U	UG/L	Thallium
2.1 J	UG/L	Vanadium
2.7 J	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample **4761** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR09SW /
Media: SURFACE WATER

Case No: 34073
MD No: 33H3
D No: 33H3

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/15/2005 12:45
Ending:

RESULTS	UNITS	ANALYTE
1400	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
20 J	UG/L	Barium
0.36 UJ	UG/L	Beryllium
5.0 U	UG/L	Cadmium
10000	UG/L	Calcium
0.84 R	UG/L	Chromium
50 U	UG/L	Cobalt
25 U	UG/L	Copper
890	UG/L	Iron
10 U	UG/L	Lead
5500	UG/L	Magnesium
44	UG/L	Manganese
0.05 UJ	UG/L	Total Mercury
40 U	UG/L	Nickel
1300 J	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
7900	UG/L	Sodium
25 U	UG/L	Thallium
2.1 J	UG/L	Vanadium
4.6 J	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4762** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR10SW / MD No: 33H4 Inorg Contractor: SENTIN
Media: SURFACE WATER D No: 33H4 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/15/2005 10:50
Ending:

RESULTS	UNITS	ANALYTE
580 U	UG/L	Aluminum
60 U	UG/L	Antimony
10 U	UG/L	Arsenic
15 J	UG/L	Barium
0.25 UJ	UG/L	Beryllium
0.64 R	UG/L	Cadmium
38000	UG/L	Calcium
1.6 J	UG/L	Chromium
50 U	UG/L	Cobalt
25 U	UG/L	Copper
300	UG/L	Iron
10 U	UG/L	Lead
13000	UG/L	Magnesium
40	UG/L	Manganese
0.20 U	UG/L	Total Mercury
40 U	UG/L	Nickel
1400 J	UG/L	Potassium
35 U	UG/L	Selenium
10 U	UG/L	Silver
7600	UG/L	Sodium
25 U	UG/L	Thallium
4.0 J	UG/L	Vanadium
5.1 J	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

METALS SAMPLE ANALYSIS

Sample **4763** FY **2005** Project: **05-0510**

Metals Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR01PW /
Media: GROUNDWATER

Case No: 34073
MD No: 33G9
D No: 33G9

Inorg Contractor: SENTIN
Org Contractor: LIBRTY

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/15/2005 10:00
Ending:

RESULTS	UNITS	ANALYTE
76 UJ	UG/L	Aluminum
2.0 U	UG/L	Antimony
0.10 J	UG/L	Arsenic
9.5 J	UG/L	Barium
1.0 U	UG/L	Beryllium
1.0 U	UG/L	Cadmium
47000	UG/L	Calcium
0.08 J	UG/L	Chromium
0.08 J	UG/L	Cobalt
3.5	UG/L	Copper
540	UG/L	Iron
0.22 J	UG/L	Lead
27000	UG/L	Magnesium
32	UG/L	Manganese
0.04 UJ	UG/L	Total Mercury
0.86 J	UG/L	Nickel
980 J	UG/L	Potassium
5.0 U	UG/L	Selenium
1.0 U	UG/L	Silver
7200	UG/L	Sodium
1.0 U	UG/L	Thallium
0.04 R	UG/L	Vanadium
62	UG/L	Zinc
10 U	UG/L	Cyanide

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4728** FY **2005** Project: **05-0510**

Extractables Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR01RB / MD No: 33D9 Inorg Contractor: SENTIN
Media: EQUIPMENT RINSE BLANK D No: 33D9 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 12:45
Ending:

RESULTS	UNITS	ANALYTE
10 U	UG/L	Benzaldehyde
10 U	UG/L	Phenol
10 U	UG/L	bis(2-Chloroethyl) Ether
10 U	UG/L	2-Chlorophenol
10 U	UG/L	2-Methylphenol
10 U	UG/L	bis(2-Chloroisopropyl) Ether
10 U	UG/L	Acetophenone
10 U	UG/L	(3-and/or 4-)Methylphenol
10 U	UG/L	n-Nitroso di-n-Propylamine
10 U	UG/L	Hexachloroethane
10 U	UG/L	Nitrobenzene
10 U	UG/L	Isophorone
10 U	UG/L	2-Nitrophenol
10 U	UG/L	2,4-Dimethylphenol
10 U	UG/L	bis(2-Chloroethoxy)Methane
10 U	UG/L	2,4-Dichlorophenol
10 U	UG/L	Naphthalene
10 U	UG/L	4-Chloroaniline
10 U	UG/L	Hexachlorobutadiene
10 U	UG/L	Caprolactam
10 U	UG/L	4-Chloro-3-Methylphenol
10 U	UG/L	2-Methylnaphthalene
10 U	UG/L	Hexachlorocyclopentadiene (HCCP)
10 U	UG/L	2,4,6-Trichlorophenol
25 U	UG/L	2,4,5-Trichlorophenol
10 U	UG/L	1,1-Biphenyl
10 U	UG/L	2-Chloronaphthalene
25 U	UG/L	2-Nitroaniline
10 U	UG/L	Dimethyl Phthalate
10 U	UG/L	2,6-Dinitrotoluene
10 U	UG/L	Acenaphthylene
25 U	UG/L	3-Nitroaniline
10 U	UG/L	Acenaphthene
25 U	UG/L	2,4-Dinitrophenol
25 U	UG/L	4-Nitrophenol

RESULTS	UNITS	ANALYTE
10 U	UG/L	Dibenzofuran
10 U	UG/L	2,4-Dinitrotoluene
10 U	UG/L	Diethyl Phthalate
10 U	UG/L	Fluorene
10 U	UG/L	4-Chlorophenyl Phenyl Ether
25 U	UG/L	4-Nitroaniline
25 U	UG/L	2-Methyl-4,6-Dinitrophenol
10 U	UG/L	n-Nitrosodiphenylamine/Diphenylamine
NA	UG/L	1,2,4,5-Tetrachlorobenzene
10 U	UG/L	4-Bromophenyl Phenyl Ether
10 U	UG/L	Hexachlorobenzene (HCB)
10 U	UG/L	Atrazine
25 U	UG/L	Pentachlorophenol
10 U	UG/L	Phenanthrene
10 U	UG/L	Anthracene
10 U	UG/L	Carbazole
10 U	UG/L	Di-n-Butylphthalate
10 U	UG/L	Fluoranthene
10 U	UG/L	Pyrene
10 U	UG/L	Benzyl Butyl Phthalate
10 U	UG/L	3,3'-Dichlorobenzidine
10 U	UG/L	Benzo(a)Anthracene
10 U	UG/L	Chrysene
10 U	UG/L	bis(2-Ethylhexyl) Phthalate
10 U	UG/L	Di-n-Octylphthalate
10 U	UG/L	Benzo(b)Fluoranthene
10 U	UG/L	Benzo(k)Fluoranthene
10 U	UG/L	Benzo-a-Pyrene
10 U	UG/L	Indeno (1,2,3-cd) Pyrene
10 U	UG/L	Dibenzo(a,h)Anthracene
10 U	UG/L	Benzo(ghi)Perylene

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

EXTRACTABLES SAMPLE ANALYSIS

Sample 4729 FY 2005 Project: 05-0510

Extractables Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR03SS / MD No: 33E0 Inorg Contractor: SENTIN
Media: SURFACE SOIL D No: 33E0 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 10:00
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
390 U	UG/KG	Benzaldehyde
390 U	UG/KG	Phenol
390 U	UG/KG	bis(2-Chloroethyl) Ether
390 U	UG/KG	2-Chlorophenol
390 U	UG/KG	2-Methylphenol
390 U	UG/KG	bis(2-Chloroisopropyl) Ether
390 U	UG/KG	Acetophenone
390 U	UG/KG	(3-and/or 4-)Methylphenol
390 U	UG/KG	n-Nitroso di-n-Propylamine
390 U	UG/KG	Hexachloroethane
390 U	UG/KG	Nitrobenzene
390 U	UG/KG	Isophorone
390 U	UG/KG	2-Nitrophenol
390 U	UG/KG	2,4-Dimethylphenol
390 U	UG/KG	bis(2-Chloroethoxy)Methane
390 U	UG/KG	2,4-Dichlorophenol
390 U	UG/KG	Naphthalene
390 U	UG/KG	4-Chloroaniline
390 U	UG/KG	Hexachlorobutadiene
390 U	UG/KG	Caprolactam
390 U	UG/KG	4-Chloro-3-Methylphenol
390 U	UG/KG	2-Methylnaphthalene
390 U	UG/KG	Hexachlorocyclopentadiene (HCCP)
390 U	UG/KG	2,4,6-Trichlorophenol
970 U	UG/KG	2,4,5-Trichlorophenol
390 U	UG/KG	1,1-Biphenyl
390 U	UG/KG	2-Chloronaphthalene
970 U	UG/KG	2-Nitroaniline
390 U	UG/KG	Dimethyl Phthalate
390 U	UG/KG	2,6-Dinitrotoluene
390 U	UG/KG	Acenaphthylene
970 U	UG/KG	3-Nitroaniline
390 U	UG/KG	Acenaphthene
970 UR	UG/KG	2,4-Dinitrophenol
970 U	UG/KG	4-Nitrophenol
390 U	UG/KG	Dibenzofuran
390 U	UG/KG	2,4-Dinitrotoluene
390 U	UG/KG	Diethyl Phthalate
390 U	UG/KG	Fluorene
390 U	UG/KG	4-Chlorophenyl Phenyl Ether
970 U	UG/KG	4-Nitroaniline
970 UJ	UG/KG	2-Methyl-4,6-Dinitrophenol
390 U	UG/KG	n-Nitrosodiphenylamine/Diphenylamine
NA	UG/KG	1,2,4,5-Tetrachlorobenzene
390 U	UG/KG	4-Bromophenyl Phenyl Ether
390 U	UG/KG	Hexachlorobenzene (HCB)
390 U	UG/KG	Atrazine
970 UR	UG/KG	Pentachlorophenol
390 U	UG/KG	Phenanthrene
390 U	UG/KG	Anthracene
390 U	UG/KG	Carbazole
390 U	UG/KG	Di-n-Butylphthalate
390 U	UG/KG	Fluoranthene
390 U	UG/KG	Pyrene
390 U	UG/KG	Benzyl Butyl Phthalate
390 U	UG/KG	3,3'-Dichlorobenzidine
390 U	UG/KG	Benzo(a)Anthracene
390 U	UG/KG	Chrysene
390 U	UG/KG	bis(2-Ethylhexyl) Phthalate
390 U	UG/KG	Di-n-Octylphthalate
390 U	UG/KG	Benzo(b)Fluoranthene
390 U	UG/KG	Benzo(k)Fluoranthene
390 U	UG/KG	Benzo-a-Pyrene
390 U	UG/KG	Indeno (1,2,3-cd) Pyrene
390 U	UG/KG	Dibenzo(a,h)Anthracene
390 U	UG/KG	Benzo(ghi)Perylene
14	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4730 FY 2005 Project: 05-0510
Extractables Scan
Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR03DSS / MD No: 33E1 Inorg Contractor: SENTIN
Media: SURFACE SOIL D No: 33E1 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 10:00
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
360 U	UG/KG	Benzaldehyde
360 U	UG/KG	Phenol
360 U	UG/KG	bis(2-Chloroethyl) Ether
360 U	UG/KG	2-Chlorophenol
360 U	UG/KG	2-Methylphenol
360 U	UG/KG	bis(2-Chloroisopropyl) Ether
360 U	UG/KG	Acetophenone
360 U	UG/KG	(3-and/or 4-)Methylphenol
360 U	UG/KG	n-Nitroso di-n-Propylamine
360 U	UG/KG	Hexachloroethane
360 U	UG/KG	Nitrobenzene
360 U	UG/KG	Isophorone
360 U	UG/KG	2-Nitrophenol
360 U	UG/KG	2,4-Dimethylphenol
360 U	UG/KG	bis(2-Chloroethoxy)Methane
360 U	UG/KG	2,4-Dichlorophenol
360 U	UG/KG	Naphthalene
360 U	UG/KG	4-Chloroaniline
360 U	UG/KG	Hexachlorobutadiene
360 U	UG/KG	Caprolactam
360 U	UG/KG	4-Chloro-3-Methylphenol
360 U	UG/KG	2-Methylnaphthalene
360 U	UG/KG	Hexachlorocyclopentadiene (HCCP)
360 U	UG/KG	2,4,6-Trichlorophenol
900 U	UG/KG	2,4,5-Trichlorophenol
360 U	UG/KG	1,1-Biphenyl
360 U	UG/KG	2-Chloronaphthalene
900 U	UG/KG	2-Nitroaniline
360 U	UG/KG	Dimethyl Phthalate
360 U	UG/KG	2,6-Dinitrotoluene
360 U	UG/KG	Acenaphthylene
900 U	UG/KG	3-Nitroaniline
360 U	UG/KG	Acenaphthene
900 UR	UG/KG	2,4-Dinitrophenol
900 UJ	UG/KG	4-Nitrophenol
360 U	UG/KG	Dibenzofuran
360 U	UG/KG	2,4-Dinitrotoluene
360 U	UG/KG	Diethyl Phthalate
360 U	UG/KG	Fluorene
360 U	UG/KG	4-Chlorophenyl Phenyl Ether
900 U	UG/KG	4-Nitroaniline
900 UJ	UG/KG	2-Methyl-4,6-Dinitrophenol
360 U	UG/KG	n-Nitrosodiphenylamine/Diphenylamine
NA	UG/KG	1,2,4,5-Tetrachlorobenzene
360 U	UG/KG	4-Bromophenyl Phenyl Ether
360 U	UG/KG	Hexachlorobenzene (HCB)
360 U	UG/KG	Atrazine
900 UR	UG/KG	Pentachlorophenol
360 U	UG/KG	Phenanthrene
360 U	UG/KG	Anthracene
360 U	UG/KG	Carbazole
360 U	UG/KG	Di-n-Butylphthalate
360 U	UG/KG	Fluoranthene
360 U	UG/KG	Pyrene
360 U	UG/KG	Benzyl Butyl Phthalate
360 U	UG/KG	3,3'-Dichlorobenzidine
360 U	UG/KG	Benzo(a)Anthracene
360 U	UG/KG	Chrysene
360 U	UG/KG	bis(2-Ethylhexyl) Phthalate
360 U	UG/KG	Di-n-Octylphthalate
360 U	UG/KG	Benzo(b)Fluoranthene
360 U	UG/KG	Benzo(k)Fluoranthene
360 U	UG/KG	Benzo-a-Pyrene
360 U	UG/KG	Indeno (1,2,3-cd) Pyrene
360 U	UG/KG	Dibenzo(a,h)Anthracene
360 U	UG/KG	Benzo(ghi)Perylene
7	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

EXTRACTABLES SAMPLE ANALYSIS

Sample **4731** FY **2005** Project: **05-0510**

Extractables Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR03SB / MD No: 33E2 Inorg Contractor: SENTIN
Media: SUBSURFACE SOIL D No: 33E2 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 10:35
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
360 U	UG/KG	Benzaldehyde
360 U	UG/KG	Phenol
360 U	UG/KG	bis(2-Chloroethyl) Ether
360 U	UG/KG	2-Chlorophenol
360 U	UG/KG	2-Methylphenol
360 U	UG/KG	bis(2-Chloroisopropyl) Ether
360 U	UG/KG	Acetophenone
360 U	UG/KG	(3-and/or 4-)Methylphenol
360 U	UG/KG	n-Nitroso di-n-Propylamine
360 U	UG/KG	Hexachloroethane
360 U	UG/KG	Nitrobenzene
360 U	UG/KG	Isophorone
360 U	UG/KG	2-Nitrophenol
360 U	UG/KG	2,4-Dimethylphenol
360 U	UG/KG	bis(2-Chloroethoxy)Methane
360 U	UG/KG	2,4-Dichlorophenol
360 U	UG/KG	Naphthalene
360 U	UG/KG	4-Chloroaniline
360 U	UG/KG	Hexachlorobutadiene
360 U	UG/KG	Caprolactam
360 U	UG/KG	4-Chloro-3-Methylphenol
360 U	UG/KG	2-Methylnaphthalene
360 U	UG/KG	Hexachlorocyclopentadiene (HCCP)
360 U	UG/KG	2,4,6-Trichlorophenol
910 U	UG/KG	2,4,5-Trichlorophenol
360 U	UG/KG	1,1-Biphenyl
360 U	UG/KG	2-Chloronaphthalene
910 U	UG/KG	2-Nitroaniline
360 U	UG/KG	Dimethyl Phthalate
360 U	UG/KG	2,6-Dinitrotoluene
360 U	UG/KG	Acenaphthylene
910 U	UG/KG	3-Nitroaniline
360 U	UG/KG	Acenaphthene
910 UR	UG/KG	2,4-Dinitrophenol
910 UJ	UG/KG	4-Nitrophenol
360 U	UG/KG	Dibenzofuran
360 U	UG/KG	2,4-Dinitrotoluene
360 U	UG/KG	Diethyl Phthalate
360 U	UG/KG	Fluorene
360 U	UG/KG	4-Chlorophenyl Phenyl Ether
910 U	UG/KG	4-Nitroaniline
910 UJ	UG/KG	2-Methyl-4,6-Dinitrophenol
360 U	UG/KG	n-Nitrosodiphenylamine/Diphenylamine
NA	UG/KG	1,2,4,5-Tetrachlorobenzene
360 U	UG/KG	4-Bromophenyl Phenyl Ether
360 U	UG/KG	Hexachlorobenzene (HCB)
360 U	UG/KG	Atrazine
910 UR	UG/KG	Pentachlorophenol
360 U	UG/KG	Phenanthrene
360 U	UG/KG	Anthracene
360 U	UG/KG	Carbazole
360 U	UG/KG	Di-n-Butylphthalate
360 U	UG/KG	Fluoranthene
360 U	UG/KG	Pyrene
360 U	UG/KG	Benzyl Butyl Phthalate
360 U	UG/KG	3,3'-Dichlorobenzidine
360 U	UG/KG	Benzo(a)Anthracene
360 U	UG/KG	Chrysene
360 U	UG/KG	bis(2-Ethylhexyl) Phthalate
360 U	UG/KG	Di-n-Octylphthalate
360 U	UG/KG	Benzo(b)Fluoranthene
360 U	UG/KG	Benzo(k)Fluoranthene
360 U	UG/KG	Benzo-a-Pyrene
360 U	UG/KG	Indeno (1,2,3-cd) Pyrene
360 U	UG/KG	Dibenzo(a,h)Anthracene
360 U	UG/KG	Benzo(ghi)Perylene
8	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4732 FY 2005 Project: 05-0510

Extractables Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR04SS / MD No: 33E3 Inorg Contractor: SENTIN
Media: SURFACE SOIL D No: 33E3 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 11:05
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
490 U	UG/KG	Benzaldehyde
490 U	UG/KG	Phenol
490 U	UG/KG	bis(2-Chloroethyl) Ether
490 U	UG/KG	2-Chlorophenol
490 U	UG/KG	2-Methylphenol
490 U	UG/KG	bis(2-Chloroisopropyl) Ether
490 U	UG/KG	Acetophenone
490 U	UG/KG	(3-and/or 4-)Methylphenol
490 U	UG/KG	n-Nitroso di-n-Propylamine
490 U	UG/KG	Hexachloroethane
490 U	UG/KG	Nitrobenzene
490 U	UG/KG	Isophorone
490 U	UG/KG	2-Nitrophenol
490 U	UG/KG	2,4-Dimethylphenol
490 U	UG/KG	bis(2-Chloroethoxy)Methane
490 U	UG/KG	2,4-Dichlorophenol
490 U	UG/KG	Naphthalene
490 U	UG/KG	4-Chloroaniline
490 U	UG/KG	Hexachlorobutadiene
490 U	UG/KG	Caprolactam
490 U	UG/KG	4-Chloro-3-Methylphenol
490 U	UG/KG	2-Methylnaphthalene
490 U	UG/KG	Hexachlorocyclopentadiene (HCCP)
490 U	UG/KG	2,4,6-Trichlorophenol
1200 U	UG/KG	2,4,5-Trichlorophenol
490 U	UG/KG	1,1-Biphenyl
490 U	UG/KG	2-Chloronaphthalene
1200 U	UG/KG	2-Nitroaniline
490 U	UG/KG	Dimethyl Phthalate
490 U	UG/KG	2,6-Dinitrotoluene
490 U	UG/KG	Acenaphthylene
1200 U	UG/KG	3-Nitroaniline
490 U	UG/KG	Acenaphthene
1200 UR	UG/KG	2,4-Dinitrophenol
1200 UJ	UG/KG	4-Nitrophenol
490 U	UG/KG	Dibenzofuran
490 U	UG/KG	2,4-Dinitrotoluene
490 U	UG/KG	Diethyl Phthalate
62 J	UG/KG	Fluorene
490 U	UG/KG	4-Chlorophenyl Phenyl Ether
1200 U	UG/KG	4-Nitroaniline
1200 UJ	UG/KG	2-Methyl-4,6-Dinitrophenol
490 U	UG/KG	n-Nitrosodiphenylamine/Diphenylamine
NA	UG/KG	1,2,4,5-Tetrachlorobenzene
490 U	UG/KG	4-Bromophenyl Phenyl Ether
490 U	UG/KG	Hexachlorobenzene (HCB)
490 U	UG/KG	Atrazine
1200 UR	UG/KG	Pentachlorophenol
260 J	UG/KG	Phenanthrene
120 J	UG/KG	Anthracene
64 J	UG/KG	Carbazole
650	UG/KG	Di-n-Butylphthalate
670	UG/KG	Fluoranthene
590	UG/KG	Pyrene
490 U	UG/KG	Benzyl Butyl Phthalate
490 U	UG/KG	3,3'-Dichlorobenzidine
120 J	UG/KG	Benzo(a)Anthracene
280 J	UG/KG	Chrysene
490 U	UG/KG	bis(2-Ethylhexyl) Phthalate
490 U	UG/KG	Di-n-Octylphthalate
170 J	UG/KG	Benzo(b)Fluoranthene
53 J	UG/KG	Benzo(k)Fluoranthene
490 U	UG/KG	Benzo-a-Pyrene
490 U	UG/KG	Indeno (1,2,3-cd) Pyrene
490 U	UG/KG	Dibenzo(a,h)Anthracene
490 U	UG/KG	Benzo(ghi)Perylene
32	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

EXTRACTABLES SAMPLE ANALYSIS

Sample 4732 FY 2005 Project: 05-0510

MISCELLANEOUS COMPOUNDS

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR04SS /
Media: SURFACE SOIL

Case No: 34073
MD No: 33E3
D No: 33E3

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 11:05
Ending:

RESULTS	UNITS	ANALYTE
240 NJ	UG/KG	TRIETHYL PHOSPHATE
10000 J	UG/KG	17 UNKNOWNS
190 NJ	UG/KG	PHENOL, 4-(1,1-DIMETHYLPROPYL)-
2400 NJ	UG/KG	2-PROPENOIC ACID, TRIDECYL ESTER
220 NJ	UG/KG	PROPANOIC ACID, 3-MERCAPTO-DODECYL ESTER
N	UG/KG	PETROLEUM PRODUCT

Data Reported as Identified by CLP Lab - IDs Not Verified

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4733** FY **2005** Project: **05-0510**

Extractables Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR05SS / MD No: 33E4 Inorg Contractor: SENTIN
Media: SURFACE SOIL D No: 33E4 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 11:50
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
420 U	UG/KG	Benzaldehyde
420 U	UG/KG	Phenol
420 U	UG/KG	bis(2-Chloroethyl) Ether
420 U	UG/KG	2-Chlorophenol
420 U	UG/KG	2-Methylphenol
420 U	UG/KG	bis(2-Chloroisopropyl) Ether
420 U	UG/KG	Acetophenone
420 U	UG/KG	(3-and/or 4-)Methylphenol
420 U	UG/KG	n-Nitroso di-n-Propylamine
420 U	UG/KG	Hexachloroethane
420 U	UG/KG	Nitrobenzene
420 U	UG/KG	Isophorone
420 U	UG/KG	2-Nitrophenol
420 U	UG/KG	2,4-Dimethylphenol
420 U	UG/KG	bis(2-Chloroethoxy)Methane
420 U	UG/KG	2,4-Dichlorophenol
420 U	UG/KG	Naphthalene
420 U	UG/KG	4-Chloroaniline
420 U	UG/KG	Hexachlorobutadiene
420 U	UG/KG	Caprolactam
420 U	UG/KG	4-Chloro-3-Methylphenol
420 U	UG/KG	2-Methylnaphthalene
420 U	UG/KG	Hexachlorocyclopentadiene (HCCP)
420 U	UG/KG	2,4,6-Trichlorophenol
1100 U	UG/KG	2,4,5-Trichlorophenol
420 U	UG/KG	1,1-Biphenyl
420 U	UG/KG	2-Chloronaphthalene
1100 U	UG/KG	2-Nitroaniline
420 U	UG/KG	Dimethyl Phthalate
420 U	UG/KG	2,6-Dinitrotoluene
420 U	UG/KG	Acenaphthylene
1100 U	UG/KG	3-Nitroaniline
420 U	UG/KG	Acenaphthene
1100 UR	UG/KG	2,4-Dinitrophenol
1100 UJ	UG/KG	4-Nitrophenol
420 U	UG/KG	Dibenzofuran
420 U	UG/KG	2,4-Dinitrotoluene
420 U	UG/KG	Diethyl Phthalate
420 U	UG/KG	Fluorene
420 U	UG/KG	4-Chlorophenyl Phenyl Ether
1100 U	UG/KG	4-Nitroaniline
1100 UJ	UG/KG	2-Methyl-4,6-Dinitrophenol
420 U	UG/KG	n-Nitrosodiphenylamine/Diphenylamine
NA	UG/KG	1,2,4,5-Tetrachlorobenzene
420 U	UG/KG	4-Bromophenyl Phenyl Ether
420 U	UG/KG	Hexachlorobenzene (HCB)
420 U	UG/KG	Atrazine
1100 UR	UG/KG	Pentachlorophenol
420 U	UG/KG	Phenanthrene
420 U	UG/KG	Anthracene
420 U	UG/KG	Carbazole
420 U	UG/KG	Di-n-Butylphthalate
420 U	UG/KG	Fluoranthene
420 U	UG/KG	Pyrene
420 U	UG/KG	Benzyl Butyl Phthalate
420 U	UG/KG	3,3'-Dichlorobenzidine
420 U	UG/KG	Benzo(a)Anthracene
420 U	UG/KG	Chrysene
420 U	UG/KG	bis(2-Ethylhexyl) Phthalate
420 U	UG/KG	Di-n-Octylphthalate
420 U	UG/KG	Benzo(b)Fluoranthene
420 U	UG/KG	Benzo(k)Fluoranthene
420 U	UG/KG	Benzo-a-Pyrene
420 U	UG/KG	Indeno (1,2,3-cd) Pyrene
420 U	UG/KG	Dibenzo(a,h)Anthracene
420 U	UG/KG	Benzo(ghi)Perylene
22	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

EXTRACTABLES SAMPLE ANALYSIS

Sample 4733 FY 2005 Project: 05-0510

MISCELLANEOUS COMPOUNDS

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR05SS /
Media: SURFACE SOIL

Case No: 34073
MD No: 33E4
D No: 33E4

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 11:50
Ending:

RESULTS	UNITS	ANALYTE
9800 J	UG/KG	4 UNKNOWNS

Data Reported as Identified by CLP Lab - IDs Not Verified

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4734** FY **2005** Project: **05-0510**

Extractables Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR03SW / MD No: 33E5 Inorg Contractor: SENTIN
Media: SURFACE WATER D No: 33E5 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 15:45
Ending:

RESULTS	UNITS	ANALYTE
10 U	UG/L	Benzaldehyde
10 U	UG/L	Phenol
10 U	UG/L	bis(2-Chloroethyl) Ether
10 U	UG/L	2-Chlorophenol
10 U	UG/L	2-Methylphenol
10 U	UG/L	bis(2-Chloroisopropyl) Ether
10 U	UG/L	Acetophenone
10 U	UG/L	(3-and/or 4-)Methylphenol
10 U	UG/L	n-Nitroso di-n-Propylamine
10 U	UG/L	Hexachloroethane
10 U	UG/L	Nitrobenzene
10 U	UG/L	Isophorone
10 U	UG/L	2-Nitrophenol
10 U	UG/L	2,4-Dimethylphenol
10 U	UG/L	bis(2-Chloroethoxy)Methane
10 U	UG/L	2,4-Dichlorophenol
10 U	UG/L	Naphthalene
10 U	UG/L	4-Chloroaniline
10 U	UG/L	Hexachlorobutadiene
10 U	UG/L	Caprolactam
10 U	UG/L	4-Chloro-3-Methylphenol
10 U	UG/L	2-Methylnaphthalene
10 U	UG/L	Hexachlorocyclopentadiene (HCCP)
10 U	UG/L	2,4,6-Trichlorophenol
25 U	UG/L	2,4,5-Trichlorophenol
10 U	UG/L	1,1-Biphenyl
10 U	UG/L	2-Chloronaphthalene
25 U	UG/L	2-Nitroaniline
10 U	UG/L	Dimethyl Phthalate
10 U	UG/L	2,6-Dinitrotoluene
10 U	UG/L	Acenaphthylene
25 U	UG/L	3-Nitroaniline
10 U	UG/L	Acenaphthene
25 U	UG/L	2,4-Dinitrophenol
25 U	UG/L	4-Nitrophenol

RESULTS	UNITS	ANALYTE
10 U	UG/L	Dibenzofuran
10 U	UG/L	2,4-Dinitrotoluene
10 U	UG/L	Diethyl Phthalate
10 U	UG/L	Fluorene
10 U	UG/L	4-Chlorophenyl Phenyl Ether
25 U	UG/L	4-Nitroaniline
25 U	UG/L	2-Methyl-4,6-Dinitrophenol
10 U	UG/L	n-Nitrosodiphenylamine/Diphenylamine
NA	UG/L	1,2,4,5-Tetrachlorobenzene
10 U	UG/L	4-Bromophenyl Phenyl Ether
10 U	UG/L	Hexachlorobenzene (HCB)
10 U	UG/L	Atrazine
25 U	UG/L	Pentachlorophenol
10 U	UG/L	Phenanthrene
10 U	UG/L	Anthracene
10 U	UG/L	Carbazole
10 U	UG/L	Di-n-Butylphthalate
10 U	UG/L	Fluoranthene
10 U	UG/L	Pyrene
10 U	UG/L	Benzyl Butyl Phthalate
10 U	UG/L	3,3'-Dichlorobenzidine
10 U	UG/L	Benzo(a)Anthracene
10 U	UG/L	Chrysene
10 U	UG/L	bis(2-Ethylhexyl) Phthalate
10 U	UG/L	Di-n-Octylphthalate
10 U	UG/L	Benzo(b)Fluoranthene
10 U	UG/L	Benzo(k)Fluoranthene
10 U	UG/L	Benzo-a-Pyrene
10 U	UG/L	Indeno (1,2,3-cd) Pyrene
10 U	UG/L	Dibenzo(a,h)Anthracene
10 U	UG/L	Benzo(ghi)Perylene

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

EXTRACTABLES SAMPLE ANALYSIS

Sample **4734** FY **2005** Project: **05-0510**

MISCELLANEOUS COMPOUNDS

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR03SW /
Media: SURFACE WATER

Case No: 34073
MD No: 33E5
D No: 33E5

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 15:45
Ending:

RESULTS	UNITS	ANALYTE
2 J	UG/L	1 UNKNOWN

Data Reported as Identified by CLP Lab - IDs Not Verified

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4735 FY 2005 Project: 05-0510
Extractables Scan
Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR03SD / MD No: 33E6 Inorg Contractor: SENTIN
Media: SEDIMENT D No: 33E6 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 16:00
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
600 U	UG/KG	Benzaldehyde
600 U	UG/KG	Phenol
600 U	UG/KG	bis(2-Chloroethyl) Ether
600 U	UG/KG	2-Chlorophenol
600 U	UG/KG	2-Methylphenol
600 U	UG/KG	bis(2-Chloroisopropyl) Ether
600 U	UG/KG	Acetophenone
600 U	UG/KG	(3-and/or 4-)Methylphenol
600 U	UG/KG	n-Nitroso di-n-Propylamine
600 U	UG/KG	Hexachloroethane
600 U	UG/KG	Nitrobenzene
600 U	UG/KG	Isophorone
600 U	UG/KG	2-Nitrophenol
600 U	UG/KG	2,4-Dimethylphenol
600 U	UG/KG	bis(2-Chloroethoxy)Methane
600 U	UG/KG	2,4-Dichlorophenol
600 U	UG/KG	Naphthalene
600 U	UG/KG	4-Chloroaniline
600 U	UG/KG	Hexachlorobutadiene
600 U	UG/KG	Caprolactam
600 U	UG/KG	4-Chloro-3-Methylphenol
600 U	UG/KG	2-Methylnaphthalene
600 U	UG/KG	Hexachlorocyclopentadiene (HCCP)
600 U	UG/KG	2,4,6-Trichlorophenol
1500 U	UG/KG	2,4,5-Trichlorophenol
600 U	UG/KG	1,1-Biphenyl
600 U	UG/KG	2-Chloronaphthalene
1500 U	UG/KG	2-Nitroaniline
600 U	UG/KG	Dimethyl Phthalate
600 U	UG/KG	2,6-Dinitrotoluene
600 U	UG/KG	Acenaphthylene
1500 U	UG/KG	3-Nitroaniline
600 U	UG/KG	Acenaphthene
1500 UR	UG/KG	2,4-Dinitrophenol
1500 UJ	UG/KG	4-Nitrophenol
600 U	UG/KG	Dibenzofuran
600 U	UG/KG	2,4-Dinitrotoluene
600 U	UG/KG	Diethyl Phthalate
600 U	UG/KG	Fluorene
600 U	UG/KG	4-Chlorophenyl Phenyl Ether
1500 U	UG/KG	4-Nitroaniline
1500 UJ	UG/KG	2-Methyl-4,6-Dinitrophenol
600 U	UG/KG	n-Nitrosodiphenylamine/Diphenylamine
NA	UG/KG	1,2,4,5-Tetrachlorobenzene
600 U	UG/KG	4-Bromophenyl Phenyl Ether
600 U	UG/KG	Hexachlorobenzene (HCB)
600 U	UG/KG	Atrazine
1500 UR	UG/KG	Pentachlorophenol
600 U	UG/KG	Phenanthrene
600 U	UG/KG	Anthracene
600 U	UG/KG	Carbazole
8900	UG/KG	Di-n-Butylphthalate
600 U	UG/KG	Fluoranthene
600 U	UG/KG	Pyrene
600 U	UG/KG	Benzyl Butyl Phthalate
600 U	UG/KG	3,3'-Dichlorobenzidine
600 U	UG/KG	Benzo(a)Anthracene
600 U	UG/KG	Chrysene
820 U	UG/KG	bis(2-Ethylhexyl) Phthalate
600 U	UG/KG	Di-n-Octylphthalate
600 U	UG/KG	Benzo(b)Fluoranthene
600 U	UG/KG	Benzo(k)Fluoranthene
600 U	UG/KG	Benzo-a-Pyrene
600 U	UG/KG	Indeno (1,2,3-cd) Pyrene
600 U	UG/KG	Dibenzo(a,h)Anthracene
600 U	UG/KG	Benzo(ghi)Perylene
45	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

EXTRACTABLES SAMPLE ANALYSIS

EPA - REGION IV USER, ...

Sample 4735 FY 2005 Project: 05-0510

MISCELLANEOUS COMPOUNDS

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR03SD /
Media: SEDIMENT

Case No: 34073
MD No: 33E6
D No: 33E6

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 16:00
Ending:

RESULTS	UNITS	ANALYTE
1900 J	UG/KG	8 UNKNOWNS
130 NJ	UG/KG	HEXANEDIOIC ACID, BIS(2-ETHYLHEXYL) ESTER

Data Reported as Identified by CLP Lab - IDs Not Verified

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4736** FY **2005** Project: **05-0510**

Extractables Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR04SW / MD No: 33E7 Inorg Contractor: SENTIN
Media: SURFACE WATER D No: 33E7 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 14:20
Ending:

RESULTS	UNITS	ANALYTE
10 U	UG/L	Benzaldehyde
10 U	UG/L	Phenol
10 U	UG/L	bis(2-Chloroethyl) Ether
10 U	UG/L	2-Chlorophenol
10 U	UG/L	2-Methylphenol
10 U	UG/L	bis(2-Chloroisopropyl) Ether
10 U	UG/L	Acetophenone
10 U	UG/L	(3-and/or 4-)Methylphenol
10 U	UG/L	n-Nitroso di-n-Propylamine
10 U	UG/L	Hexachloroethane
10 U	UG/L	Nitrobenzene
10 U	UG/L	Isophorone
10 U	UG/L	2-Nitrophenol
10 U	UG/L	2,4-Dimethylphenol
10 U	UG/L	bis(2-Chloroethoxy)Methane
10 U	UG/L	2,4-Dichlorophenol
10 U	UG/L	Naphthalene
10 U	UG/L	4-Chloroaniline
10 U	UG/L	Hexachlorobutadiene
10 U	UG/L	Caprolactam
10 U	UG/L	4-Chloro-3-Methylphenol
10 U	UG/L	2-Methylnaphthalene
10 U	UG/L	Hexachlorocyclopentadiene (HCCP)
10 U	UG/L	2,4,6-Trichlorophenol
25 U	UG/L	2,4,5-Trichlorophenol
10 U	UG/L	1,1-Biphenyl
10 U	UG/L	2-Chloronaphthalene
25 U	UG/L	2-Nitroaniline
10 U	UG/L	Dimethyl Phthalate
10 U	UG/L	2,6-Dinitrotoluene
10 U	UG/L	Acenaphthylene
25 U	UG/L	3-Nitroaniline
10 U	UG/L	Acenaphthene
25 U	UG/L	2,4-Dinitrophenol
25 U	UG/L	4-Nitrophenol

RESULTS	UNITS	ANALYTE
10 U	UG/L	Dibenzofuran
10 U	UG/L	2,4-Dinitrotoluene
10 U	UG/L	Diethyl Phthalate
10 U	UG/L	Fluorene
10 U	UG/L	4-Chlorophenyl Phenyl Ether
25 U	UG/L	4-Nitroaniline
25 U	UG/L	2-Methyl-4,6-Dinitrophenol
10 U	UG/L	n-Nitrosodiphenylamine/Diphenylamine
NA	UG/L	1,2,4,5-Tetrachlorobenzene
10 U	UG/L	4-Bromophenyl Phenyl Ether
10 U	UG/L	Hexachlorobenzene (HCB)
10 U	UG/L	Atrazine
25 U	UG/L	Pentachlorophenol
10 U	UG/L	Phenanthrene
10 U	UG/L	Anthracene
10 U	UG/L	Carbazole
10 U	UG/L	Di-n-Butylphthalate
1 J	UG/L	Fluoranthene
1 J	UG/L	Pyrene
10 U	UG/L	Benzyl Butyl Phthalate
10 U	UG/L	3,3'-Dichlorobenzidine
10 U	UG/L	Benzo(a)Anthracene
10 U	UG/L	Chrysene
10 U	UG/L	bis(2-Ethylhexyl) Phthalate
10 U	UG/L	Di-n-Octylphthalate
10 U	UG/L	Benzo(b)Fluoranthene
10 U	UG/L	Benzo(k)Fluoranthene
10 U	UG/L	Benzo-a-Pyrene
10 U	UG/L	Indeno (1,2,3-cd) Pyrene
10 U	UG/L	Dibenzo(a,h)Anthracene
10 U	UG/L	Benzo(ghi)Perylene

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

EXTRACTABLES SAMPLE ANALYSIS

Sample **4736** FY **2005** Project: **05-0510**

MISCELLANEOUS COMPOUNDS

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR04SW /
Media: SURFACE WATER

Case No: 34073
MD No: 33E7
D No: 33E7

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 14:20
Ending:

RESULTS	UNITS	ANALYTE
16 J	UG/L	5 UNKNOWNS
N	UG/L	PETROLEUM PRODUCT

Data Reported as Identified by CLP Lab - IDs Not Verified

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4737 FY 2005 Project: 05-0510

Extractables Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR04SD / MD No: 33E8 Inorg Contractor: SENTIN
Media: SEDIMENT D No: 33E8 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 14:45
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
420 U	UG/KG	Benzaldehyde
420 U	UG/KG	Phenol
420 U	UG/KG	bis(2-Chloroethyl) Ether
420 U	UG/KG	2-Chlorophenol
420 U	UG/KG	2-Methylphenol
420 U	UG/KG	bis(2-Chloroisopropyl) Ether
420 U	UG/KG	Acetophenone
420 U	UG/KG	(3-and/or 4-)Methylphenol
420 U	UG/KG	n-Nitroso di-n-Propylamine
420 U	UG/KG	Hexachloroethane
420 U	UG/KG	Nitrobenzene
420 U	UG/KG	Isophorone
420 U	UG/KG	2-Nitrophenol
420 U	UG/KG	2,4-Dimethylphenol
420 U	UG/KG	bis(2-Chloroethoxy)Methane
420 U	UG/KG	2,4-Dichlorophenol
420 U	UG/KG	Naphthalene
420 U	UG/KG	4-Chloroaniline
420 U	UG/KG	Hexachlorobutadiene
420 U	UG/KG	Caprolactam
420 U	UG/KG	4-Chloro-3-Methylphenol
420 U	UG/KG	2-Methylnaphthalene
420 U	UG/KG	Hexachlorocyclopentadiene (HCCP)
420 U	UG/KG	2,4,6-Trichlorophenol
1000 U	UG/KG	2,4,5-Trichlorophenol
420 U	UG/KG	1,1-Biphenyl
420 U	UG/KG	2-Chloronaphthalene
1000 U	UG/KG	2-Nitroaniline
420 U	UG/KG	Dimethyl Phthalate
420 U	UG/KG	2,6-Dinitrotoluene
420 U	UG/KG	Acenaphthylene
1000 U	UG/KG	3-Nitroaniline
420 U	UG/KG	Acenaphthene
1000 UR	UG/KG	2,4-Dinitrophenol
1000 UJ	UG/KG	4-Nitrophenol
420 U	UG/KG	Dibenzofuran
420 U	UG/KG	2,4-Dinitrotoluene
420 U	UG/KG	Diethyl Phthalate
420 U	UG/KG	Fluorene
420 U	UG/KG	4-Chlorophenyl Phenyl Ether
1000 U	UG/KG	4-Nitroaniline
1000 UJ	UG/KG	2-Methyl-4,6-Dinitrophenol
420 U	UG/KG	n-Nitrosodiphenylamine/Diphenylamine
NA	UG/KG	1,2,4,5-Tetrachlorobenzene
420 U	UG/KG	4-Bromophenyl Phenyl Ether
420 U	UG/KG	Hexachlorobenzene (HCB)
420 U	UG/KG	Atrazine
1000 UR	UG/KG	Pentachlorophenol
420 U	UG/KG	Phenanthrene
420 U	UG/KG	Anthracene
420 U	UG/KG	Carbazole
420 U	UG/KG	Di-n-Butylphthalate
56 J	UG/KG	Fluoranthene
57 J	UG/KG	Pyrene
420 U	UG/KG	Benzyl Butyl Phthalate
420 U	UG/KG	3,3'-Dichlorobenzidine
420 U	UG/KG	Benzo(a)Anthracene
72 J	UG/KG	Chrysene
420 U	UG/KG	bis(2-Ethylhexyl) Phthalate
420 U	UG/KG	Di-n-Octylphthalate
62 J	UG/KG	Benzo(b)Fluoranthene
420 U	UG/KG	Benzo(k)Fluoranthene
420 U	UG/KG	Benzo-a-Pyrene
420 U	UG/KG	Indeno (1,2,3-cd) Pyrene
420 U	UG/KG	Dibenzo(a,h)Anthracene
420 U	UG/KG	Benzo(ghi)Perylene
21	%	% Moisture

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

EXTRACTABLES SAMPLE ANALYSIS

Sample **4737** FY **2005** Project: **05-0510**

MISCELLANEOUS COMPOUNDS

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR04SD /
Media: SEDIMENT

Case No: 34073
MD No: 33E8
D No: 33E8

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 14:45
Ending:

RESULTS	UNITS	ANALYTE
120 J	UG/KG	1 UNKNOWN
960 NJ	UG/KG	D:B-FRIEDO-SECOLUPENE (3 ISOMERS)

Data Reported as Identified by CLP Lab - IDs Not Verified

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4738** FY **2005** Project: **05-0510**

Extractables Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR02MW / MD No: 33E9 Inorg Contractor: SENTIN
Media: GROUNDWATER D No: 33E9 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 10:53
Ending:

RESULTS	UNITS	ANALYTE
10 U	UG/L	Benzaldehyde
10 U	UG/L	Phenol
10 U	UG/L	bis(2-Chloroethyl) Ether
10 U	UG/L	2-Chlorophenol
10 U	UG/L	2-Methylphenol
10 U	UG/L	bis(2-Chloroisopropyl) Ether
10 U	UG/L	Acetophenone
10 U	UG/L	(3-and/or 4-)Methylphenol
10 U	UG/L	n-Nitroso di-n-Propylamine
10 U	UG/L	Hexachloroethane
10 U	UG/L	Nitrobenzene
10 U	UG/L	Isophorone
10 U	UG/L	2-Nitrophenol
10 U	UG/L	2,4-Dimethylphenol
10 U	UG/L	bis(2-Chloroethoxy)Methane
10 U	UG/L	2,4-Dichlorophenol
10 U	UG/L	Naphthalene
10 U	UG/L	4-Chloroaniline
10 U	UG/L	Hexachlorobutadiene
10 U	UG/L	Caprolactam
10 U	UG/L	4-Chloro-3-Methylphenol
10 U	UG/L	2-Methylnaphthalene
10 U	UG/L	Hexachlorocyclopentadiene (HCCP)
10 U	UG/L	2,4,6-Trichlorophenol
25 U	UG/L	2,4,5-Trichlorophenol
10 U	UG/L	1,1-Biphenyl
10 U	UG/L	2-Chloronaphthalene
25 U	UG/L	2-Nitroaniline
10 U	UG/L	Dimethyl Phthalate
10 U	UG/L	2,6-Dinitrotoluene
10 U	UG/L	Acenaphthylene
25 U	UG/L	3-Nitroaniline
10 U	UG/L	Acenaphthene
25 U	UG/L	2,4-Dinitrophenol
25 U	UG/L	4-Nitrophenol

RESULTS	UNITS	ANALYTE
10 U	UG/L	Dibenzofuran
10 U	UG/L	2,4-Dinitrotoluene
10 U	UG/L	Diethyl Phthalate
10 U	UG/L	Fluorene
10 U	UG/L	4-Chlorophenyl Phenyl Ether
25 U	UG/L	4-Nitroaniline
25 U	UG/L	2-Methyl-4,6-Dinitrophenol
10 U	UG/L	n-Nitrosodiphenylamine/Diphenylamine
NA	UG/L	1,2,4,5-Tetrachlorobenzene
10 U	UG/L	4-Bromophenyl Phenyl Ether
10 U	UG/L	Hexachlorobenzene (HCB)
10 U	UG/L	Atrazine
25 U	UG/L	Pentachlorophenol
10 U	UG/L	Phenanthrene
10 U	UG/L	Anthracene
10 U	UG/L	Carbazole
10 U	UG/L	Di-n-Butylphthalate
10 U	UG/L	Fluoranthene
10 U	UG/L	Pyrene
10 U	UG/L	Benzyl Butyl Phthalate
10 U	UG/L	3,3'-Dichlorobenzidine
10 U	UG/L	Benzo(a)Anthracene
10 U	UG/L	Chrysene
10 U	UG/L	bis(2-Ethylhexyl) Phthalate
10 U	UG/L	Di-n-Octylphthalate
10 U	UG/L	Benzo(b)Fluoranthene
10 U	UG/L	Benzo(k)Fluoranthene
10 U	UG/L	Benzo-a-Pyrene
10 U	UG/L	Indeno (1,2,3-cd) Pyrene
10 U	UG/L	Dibenzo(a,h)Anthracene
10 U	UG/L	Benzo(ghi)Perylene

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

EXTRACTABLES SAMPLE ANALYSIS

EPA - REGION IV CLP

Sample 4738 FY 2005 Project: 05-0510

MISCELLANEOUS COMPOUNDS

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR02MW /
Media: GROUNDWATER

Case No: 34073
MD No: 33E9
D No: 33E9

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/13/2005 10:53
Ending:

RESULTS	UNITS	ANALYTE
2 J	UG/L	1 UNKNOWN

Data Reported as Identified by CLP Lab - IDs Not Verified

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample **4739** FY **2005** Project: **05-0510**

Extractables Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR02GW / MD No: 33F0 Inorg Contractor: SENTIN
Media: GROUNDWATER D No: 33F0 Org Contractor: LIBRTY

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 08:52
Ending:

RESULTS	UNITS	ANALYTE
5.6 U	UG/L	Benzaldehyde
5.6 U	UG/L	Phenol
5.6 U	UG/L	bis(2-Chloroethyl) Ether
5.6 U	UG/L	2-Chlorophenol
5.6 U	UG/L	2-Methylphenol
5.6 U	UG/L	bis(2-Chloroisopropyl) Ether
5.6 U	UG/L	Acetophenone
5.6 U	UG/L	(3-and/or 4-)Methylphenol
5.6 U	UG/L	n-Nitroso di-n-Propylamine
5.6 U	UG/L	Hexachloroethane
5.6 U	UG/L	Nitrobenzene
5.6 U	UG/L	Isophorone
5.6 U	UG/L	2-Nitrophenol
5.6 U	UG/L	2,4-Dimethylphenol
5.6 U	UG/L	bis(2-Chloroethoxy)Methane
5.6 U	UG/L	2,4-Dichlorophenol
5.6 U	UG/L	Naphthalene
5.6 U	UG/L	4-Chloroaniline
5.6 U	UG/L	Hexachlorobutadiene
5.6 U	UG/L	Caprolactam
5.6 U	UG/L	4-Chloro-3-Methylphenol
5.6 U	UG/L	2-Methylnaphthalene
5.6 U	UG/L	Hexachlorocyclopentadiene (HCCP)
5.6 U	UG/L	2,4,6-Trichlorophenol
22 U	UG/L	2,4,5-Trichlorophenol
5.6 U	UG/L	1,1-Biphenyl
5.6 U	UG/L	2-Chloronaphthalene
22 U	UG/L	2-Nitroaniline
5.6 U	UG/L	Dimethyl Phthalate
5.6 U	UG/L	2,6-Dinitrotoluene
5.6 U	UG/L	Acenaphthylene
22 U	UG/L	3-Nitroaniline
5.6 U	UG/L	Acenaphthene
22 U	UG/L	2,4-Dinitrophenol
22 U	UG/L	4-Nitrophenol
5.6 U	UG/L	Dibenzofuran
5.6 U	UG/L	2,4-Dinitrotoluene
5.6 U	UG/L	Diethyl Phthalate
5.6 U	UG/L	Fluorene
5.6 U	UG/L	4-Chlorophenyl Phenyl Ether
22 U	UG/L	4-Nitroaniline
22 UJ	UG/L	2-Methyl-4,6-Dinitrophenol
5.6 U	UG/L	n-Nitrosodiphenylamine/Diphenylamine
5.6 U	UG/L	1,2,4,5-Tetrachlorobenzene
5.6 U	UG/L	4-Bromophenyl Phenyl Ether
5.6 U	UG/L	Hexachlorobenzene (HCB)
5.6 U	UG/L	Atrazine
5.6 U	UG/L	Pentachlorophenol
5.6 U	UG/L	Phenanthrene
5.6 U	UG/L	Anthracene
NA	UG/L	Carbazole
5.6 U	UG/L	Di-n-Butylphthalate
5.6 U	UG/L	Fluoranthene
5.6 U	UG/L	Pyrene
5.6 U	UG/L	Benzyl Butyl Phthalate
5.6 U	UG/L	3,3'-Dichlorobenzidine
5.6 U	UG/L	Benzo(a)Anthracene
5.6 U	UG/L	Chrysene
5.6 U	UG/L	bis(2-Ethylhexyl) Phthalate
5.6 U	UG/L	Di-n-Octylphthalate
5.6 U	UG/L	Benzo(b)Fluoranthene
5.6 U	UG/L	Benzo(k)Fluoranthene
5.6 U	UG/L	Benzo-a-Pyrene
5.6 U	UG/L	Indeno (1,2,3-cd) Pyrene
5.6 U	UG/L	Dibenzo(a,h)Anthracene
5.6 UJ	UG/L	Benzo(ghi)Perylene

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
K-Identification of analyte is acceptable; reported value may be biased high. Actual value expected to be less than the reported value.
L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

EXTRACTABLES SAMPLE ANALYSIS

Sample **4740** FY **2005** Project: **05-0510**

Extractables Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR02DGW / MD No: 33F1 Inorg Contractor: SENTIN
Media: GROUNDWATER D No: 33F1 Org Contractor: LIBRTY

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 08:52
Ending:

RESULTS	UNITS	ANALYTE
5.1 U	UG/L	Benzaldehyde
5.1 U	UG/L	Phenol
5.1 U	UG/L	bis(2-Chloroethyl) Ether
5.1 U	UG/L	2-Chlorophenol
5.1 U	UG/L	2-Methylphenol
5.1 U	UG/L	bis(2-Chloroisopropyl) Ether
5.1 U	UG/L	Acetophenone
5.1 U	UG/L	(3-and/or 4-)Methylphenol
5.1 U	UG/L	n-Nitroso di-n-Propylamine
5.1 U	UG/L	Hexachloroethane
5.1 U	UG/L	Nitrobenzene
5.1 U	UG/L	Isophorone
5.1 U	UG/L	2-Nitrophenol
5.1 U	UG/L	2,4-Dimethylphenol
5.1 U	UG/L	bis(2-Chloroethoxy)Methane
5.1 U	UG/L	2,4-Dichlorophenol
5.1 U	UG/L	Naphthalene
5.1 U	UG/L	4-Chloroaniline
5.1 U	UG/L	Hexachlorobutadiene
5.1 U	UG/L	Caprolactam
5.1 U	UG/L	4-Chloro-3-Methylphenol
5.1 U	UG/L	2-Methylnaphthalene
5.1 U	UG/L	Hexachlorocyclopentadiene (HCCP)
5.1 U	UG/L	2,4,6-Trichlorophenol
21 U	UG/L	2,4,5-Trichlorophenol
5.1 U	UG/L	1,1-Biphenyl
5.1 U	UG/L	2-Chloronaphthalene
21 U	UG/L	2-Nitroaniline
5.1 U	UG/L	Dimethyl Phthalate
5.1 U	UG/L	2,6-Dinitrotoluene
5.1 U	UG/L	Acenaphthylene
21 U	UG/L	3-Nitroaniline
5.1 U	UG/L	Acenaphthene
21 U	UG/L	2,4-Dinitrophenol
21 U	UG/L	4-Nitrophenol

RESULTS	UNITS	ANALYTE
5.1 U	UG/L	Dibenzofuran
5.1 U	UG/L	2,4-Dinitrotoluene
5.1 U	UG/L	Diethyl Phthalate
5.1 U	UG/L	Fluorene
5.1 U	UG/L	4-Chlorophenyl Phenyl Ether
21 U	UG/L	4-Nitroaniline
21 U	UG/L	2-Methyl-4,6-Dinitrophenol
5.1 U	UG/L	n-Nitrosodiphenylamine/Diphenylamine
5.1 U	UG/L	1,2,4,5-Tetrachlorobenzene
5.1 U	UG/L	4-Bromophenyl Phenyl Ether
5.1 U	UG/L	Hexachlorobenzene (HCB)
5.1 U	UG/L	Atrazine
5.1 U	UG/L	Pentachlorophenol
5.1 U	UG/L	Phenanthrene
5.1 U	UG/L	Anthracene
NA	UG/L	Carbazole
5.1 U	UG/L	Di-n-Butylphthalate
5.1 U	UG/L	Fluoranthene
5.1 U	UG/L	Pyrene
5.1 U	UG/L	Benzyl Butyl Phthalate
5.1 U	UG/L	3,3'-Dichlorobenzidine
5.1 U	UG/L	Benzo(a)Anthracene
5.1 U	UG/L	Chrysene
5.1 U	UG/L	bis(2-Ethylhexyl) Phthalate
5.1 U	UG/L	Di-n-Octylphthalate
5.1 U	UG/L	Benzo(b)Fluoranthene
5.1 U	UG/L	Benzo(k)Fluoranthene
5.1 U	UG/L	Benzo-a-Pyrene
5.1 U	UG/L	Indeno (1,2,3-cd) Pyrene
5.1 U	UG/L	Dibenzo(a,h)Anthracene
5.1 UJ	UG/L	Benzo(ghi)Perylene

U-Analyte not detected at or above reporting limit. | J-Identification of analyte is acceptable; reported value is an estimate. | UJ-Analyte not detected at or above reporting limit. Reporting limit is an estimate.
N-Presumptive evidence analyte is present; analyte reported as tentative identification. | NJ-Presumptive evidence analyte is present; analyte reported as tentative identification. Reported value is an estimate.
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L-Identification of analyte is acceptable; reported value may be biased low. Actual value expected to be greater than reported value.
NA-Not Analyzed. | NAI-Not Analyzed due to Interferences. | A-Analyte analyzed in replicate. Reported value is "average" of replicates.
R-Presence or absence of analyte can not be determined from data due to severe quality control problems. Data are rejected and considered unusable.

Sample 4741 FY 2005 Project: 05-0510

Extractables Scan

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF Case No: 34073
Id/Station: SR05SD / MD No: 33F2 Inorg Contractor: SENTIN
Media: SEDIMENT D No: 33F2 Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 14:20
Ending:

DATA REPORTED ON DRY WEIGHT BASIS

RESULTS	UNITS	ANALYTE
440 U	UG/KG	Benzaldehyde
440 U	UG/KG	Phenol
440 U	UG/KG	bis(2-Chloroethyl) Ether
440 U	UG/KG	2-Chlorophenol
440 U	UG/KG	2-Methylphenol
440 U	UG/KG	bis(2-Chloroisopropyl) Ether
440 U	UG/KG	Acetophenone
440 U	UG/KG	(3-and/or 4-)Methylphenol
440 U	UG/KG	n-Nitroso di-n-Propylamine
440 U	UG/KG	Hexachloroethane
440 U	UG/KG	Nitrobenzene
440 U	UG/KG	Isophorone
440 U	UG/KG	2-Nitrophenol
440 U	UG/KG	2,4-Dimethylphenol
440 U	UG/KG	bis(2-Chloroethoxy)Methane
440 U	UG/KG	2,4-Dichlorophenol
440 U	UG/KG	Naphthalene
440 U	UG/KG	4-Chloroaniline
440 U	UG/KG	Hexachlorobutadiene
440 U	UG/KG	Caprolactam
440 U	UG/KG	4-Chloro-3-Methylphenol
440 U	UG/KG	2-Methylnaphthalene
440 U	UG/KG	Hexachlorocyclopentadiene (HCCP)
440 U	UG/KG	2,4,6-Trichlorophenol
1100 U	UG/KG	2,4,5-Trichlorophenol
440 U	UG/KG	1,1-Biphenyl
440 U	UG/KG	2-Chloronaphthalene
1100 U	UG/KG	2-Nitroaniline
440 U	UG/KG	Dimethyl Phthalate
440 U	UG/KG	2,6-Dinitrotoluene
440 U	UG/KG	Acenaphthylene
1100 U	UG/KG	3-Nitroaniline
440 U	UG/KG	Acenaphthene
1100 UR	UG/KG	2,4-Dinitrophenol
1100 UJ	UG/KG	4-Nitrophenol

RESULTS	UNITS	ANALYTE
440 U	UG/KG	Dibenzofuran
440 U	UG/KG	2,4-Dinitrotoluene
440 U	UG/KG	Diethyl Phthalate
440 U	UG/KG	Fluorene
440 U	UG/KG	4-Chlorophenyl Phenyl Ether
1100 U	UG/KG	4-Nitroaniline
1100 UJ	UG/KG	2-Methyl-4,6-Dinitrophenol
440 U	UG/KG	n-Nitrosodiphenylamine/Diphenylamine
NA	UG/KG	1,2,4,5-Tetrachlorobenzene
440 U	UG/KG	4-Bromophenyl Phenyl Ether
440 U	UG/KG	Hexachlorobenzene (HCB)
440 U	UG/KG	Atrazine
1100 UR	UG/KG	Pentachlorophenol
440 U	UG/KG	Phenanthrene
440 U	UG/KG	Anthracene
440 U	UG/KG	Carbazole
580	UG/KG	Di-n-Butylphthalate
77 J	UG/KG	Fluoranthene
82 J	UG/KG	Pyrene
440 U	UG/KG	Benzyl Butyl Phthalate
440 U	UG/KG	3,3'-Dichlorobenzidine
440 U	UG/KG	Benzo(a)Anthracene
65 J	UG/KG	Chrysene
440 U	UG/KG	bis(2-Ethylhexyl) Phthalate
440 U	UG/KG	Di-n-Octylphthalate
61 J	UG/KG	Benzo(b)Fluoranthene
440 U	UG/KG	Benzo(k)Fluoranthene
440 U	UG/KG	Benzo-a-Pyrene
440 U	UG/KG	Indeno (1,2,3-cd) Pyrene
440 U	UG/KG	Dibenzo(a,h)Anthracene
440 U	UG/KG	Benzo(ghi)Perylene
26	%	% Moisture

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EXTRACTABLES SAMPLE ANALYSIS

Sample **4741** FY **2005** Project: **05-0510**

MISCELLANEOUS COMPOUNDS

Facility: Occidental Chemical #1 Gypsum Stack White Springs, FL
Program: SF
Id/Station: SR05SD /
Media: SEDIMENT

Case No: 34073
MD No: 33F2
D No: 33F2

Inorg Contractor: SENTIN
Org Contractor: A4

Produced by: Goddard, Denise
Requestor:
Project Leader: RHOWARD
Beginning: 04/14/2005 14:20
Ending:

RESULTS	UNITS	ANALYTE
1600 J	UG/KG	6 UNKNOWNS
99 NJ	UG/KG	.ALPHA.-CARYOPHYLLENE
540 NJ	UG/KG	NAPHTHALENE, 1,2,3,4-TETRAHYDRO-1,6-DIMETHYL-
120 NJ	UG/KG	HEXANEDIOIC ACID, BIS(2-ETHYLHEXYL) ESTER
880 NJ	UG/KG	OCTADECANAL
N	UG/KG	PETROLEUM PRODUCT

Data Reported as Identified by CLP Lab - IDs Not Verified

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